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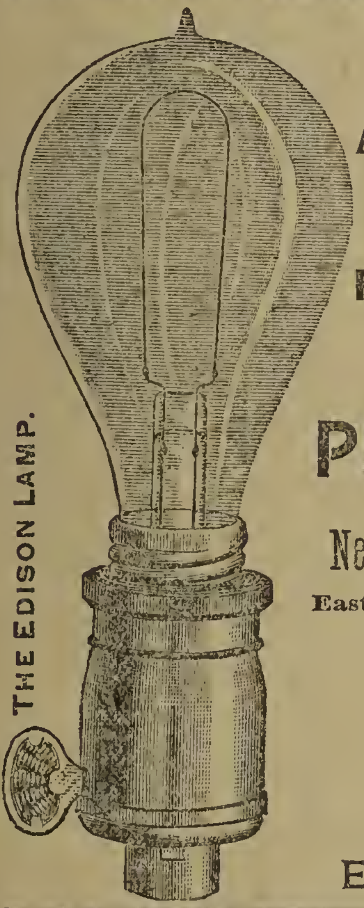

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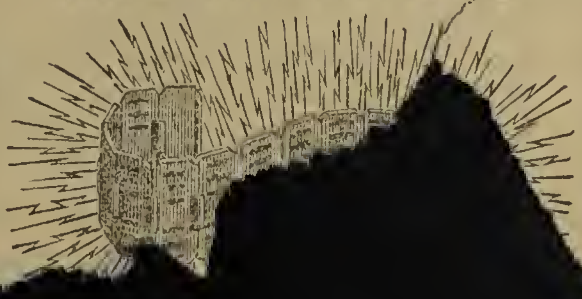

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county. Many choice and valuable presents were received. An elegant luncheon was served, in which about 150 invited guests participated. The bride and groom left to spend a portion of their honeymoon in Cincinnati.

THE marriage of Mr. Michael Long to Miss Lizzie Farrell took place last Wednesday morning at St. Patrick Church. The bride was dressed in beautiful cream-colored silk. In the evening the couple gave a reception to their many friends at the residence of the bride in Clifton, where dancing was indulged in until the wee small hours. A large number of invited guests was present.

DANVILLE, IND., October 31.—Mr. Oscar McVey and Miss Bertie Conaroe, two well-known young society people of this place were married last evening at Miss Conaroe's home, on South Washington street, Elder A. J. Frank, of the Christian Church, officiating. The pleasant affair was largely attended by hosts of friends from abroad. Mr. and Mrs. McVey will be at home to their friends in this city on and after November 15.

MT. HEALTHY, OHIO, October 29.—Mr. Chas. Hill and Miss Edna Earle Seward, well-known young people of this place, were married Tuesday. The wedding was a quiet one, attended only by the relatives. Rev. E. E. Curry, of the Christian Church, performed the ceremony, which occurred at 8 o'clock. Mr. and Mrs. Hill will reside at Mt. Healthy.

Mr. Joseph Eckert and Miss Tillie Brosey were married October 28. Mr. and Mrs. Eckert will make their home in Cincinnati.

GALION, OHIO, October 30.—Mrs. Frank Ristine, of this city, was married at Chicago last Wednesday morning to Mr. John McCormick, Chief Billing Clerk of the Chicago and Kansas City Railroad. There is a tinge of romance connected with the nuptials from the fact that the groom was an intimate acquaintance of the bride in her girlhood days. Mrs. Ristine comes from one of the wealthiest families in this city, the Longs, and her many friends here wish the couple a long and happy life.

BUCYRUS, OHIO, October 30.—Captain J. F. Reiser, Postmaster at Upper Sandusky, was married last Tuesday evening to Mrs. Wm. Stremmel, of this city, at the residence of Mr. and Mrs. Fred Kein. After the usual marriage banquet the newly wedded couple left for their new home at Upper Sandusky.

Mrs. Chas. Flocken and Miss Lena Walther were married at the residence of the bride's parents on Wednesday evening. Both are popular young people of this city, and they have the best wishes of their many friends.

NEWARK, OHIO, October 29.—Two brilliant matrimonial events took place here to-day, both being witnessed by many guests. The first was at the home of Mr. and Mrs. H. A. Montgomery, when their daughter, Miss Ida, was joined in wedlock to Dr. J. B. Chase, of Philadelphia, a prominent physician. Rev. J. H. Gardner performed the ceremony.

The second was at the farm home of Mr. and Mrs. D. T. Franks, the contracting parties being their daughter, Miss Dora, and Mr. Frank Offenbaugh. Both of these weddings were leading events of the day.

MARIETTA, OHIO, October 31.—One of the most notable society events of the week was the marriage of Miss Maggie Reckard, daughter of Mr. and Mrs. J. L. Reckard, to Mr. Arthur G. Smith, of Eustis, Fla., at the home of the bride, on Green street, Rev. C. E. Dickinson officiating. The bride wore a becoming toilet of white satin, en traine, and looked a picture of loveliness. The maids of honor were Miss Nellie Ha
, of Chillicothe, and Miss Nina Fui
Pittsburg. The happy couple departed
evening for their future home, E
Many good wishes follow them.

PAULDING, OHIO, Octo
wedding occurred at th
Church, in this city, t
contracting parties
Allen and Miss Est
A large number

mer and L. I. Arron; Mansfield, John Weaver, George Rhien, jr., Jerry Haggerty, Henry Webber and daughter.

A very pretty wedding was solemnized Wednesday evening at the Baptist Church, in which Mr. C. E. Williams, of Columbus, and Miss Bertha Sorrick, daughter of John H. Sorrick, were the contracting parties. About 200 friends were present to witness the ceremony. The ushers were J. F. Doran, Charles Mairet, W. H. Spicer and H. D. Cole. After the ceremony a reception was held at the handsome home of the bride's parents on South High street. The house was superbly decorated with potted plants and cut flowers. Mr. Williams is train-dispatcher in the employ of the Cleveland, Akron and Columbus Railway. The bride is the only daughter of Mr. John Sorrick, and is well known and highly esteemed among the young people of the city.

NEW VIENNA, OHIO, October 31.—At 8 o'clock on Thursday evening, October 30, Mr. Norwood Clifford Henning and Miss Jessie L. Harrison were united in marriage in the I. O. O. F. temple of this place. Rev. Deem, of the M. E. Church, officiating. The main lodge room, where the ceremony took place, was artistically decorated with trailing vines and blooming plants. The contracting parties stood beneath a floral umbrella, while the minister, in the beautiful ceremony of the ritual of the M. E. Church, pronounced them husband and wife. Then at once they led the way to the adjoining banquet room, where an elegant wedding supper was served to the 150 invited guests. The bride was becomingly attired in cream cashmere and natural flowers. The presents were numerous and valuable. Among those in attendance from a distance, were: Mr. and Mrs. W. L. Henning, Mr. and Mrs. E. S. Crawford and Mr. C. W. Snyder, Mt. Oreb, Ohio; Dr. Scott and wife and Mr. John Henning, of Martinsville, Ohio; Miss Grace Henning, of Vandalia, Ill.; Dr. Carter and wife, of Hamilton, Ohio; Mr. John Carter, of Sabina, Ohio.

KENTON, OHIO, October 30.—A pleasant wedding occurred in this city last Tuesday, the contracting parties being Miss Effie, the accomplished daughter of Mr. and Mrs. Nathan Ahlefeld, and Mr. Jap Andrews, a prominent young business man of Goshen, Ind. The wedding took place at high noon at the elegant home of Mr. and Mrs. Ahlefeld. It was a quiet home affair, the guests being limited to near relatives and a few intimate friends. The house was becomingly decorated with plants and cut flowers, and presented quite a festive appearance. Rev. S. J. Bogle, pastor of the Presbyterian Church, was the officiating minister. Miss Kate Ahlefeld and Master Kent Melhorn were the attendants. After the ceremony a sumptuous wedding feast was served. They left on the afternoon train for Chicago. From there they will soon go to Goshen, Ind., where they will make their home. They received many costly and elegant presents from relatives and friends. The guests from a distance who attended the wedding were: Mr. L. A. Wilcox, of Grand Rapids, Mich.; Mr. and Mrs. Peter Ahlefeld, of Ada; Mrs. S. Andrews, of North Washington.

WASHINGTON, IND., October 31.—On Tuesday last occurred the marriage of Mr. Chas. G. Gardiner to Miss Jennie Wells Aikmen, both of this city. The ceremony was performed by Rev. O. Melvena, pastor of the Presbyterian Church, at 11 a. m., at the home of Mr. Hiram Hyatt, uncle of the bride. This is an important union of two representatives of the old pioneer families of Indiana, the groom being the son of Hon. W. R. Gardiner, and a promising young barrister. The bride, a pretty brunette, is a grand daughter of Colonel John Vantrus. The bride was at
ired in a silver gray silk gown made in Par
d carried a handsome bunch of
es. Miss Lillie Smith, of Vince
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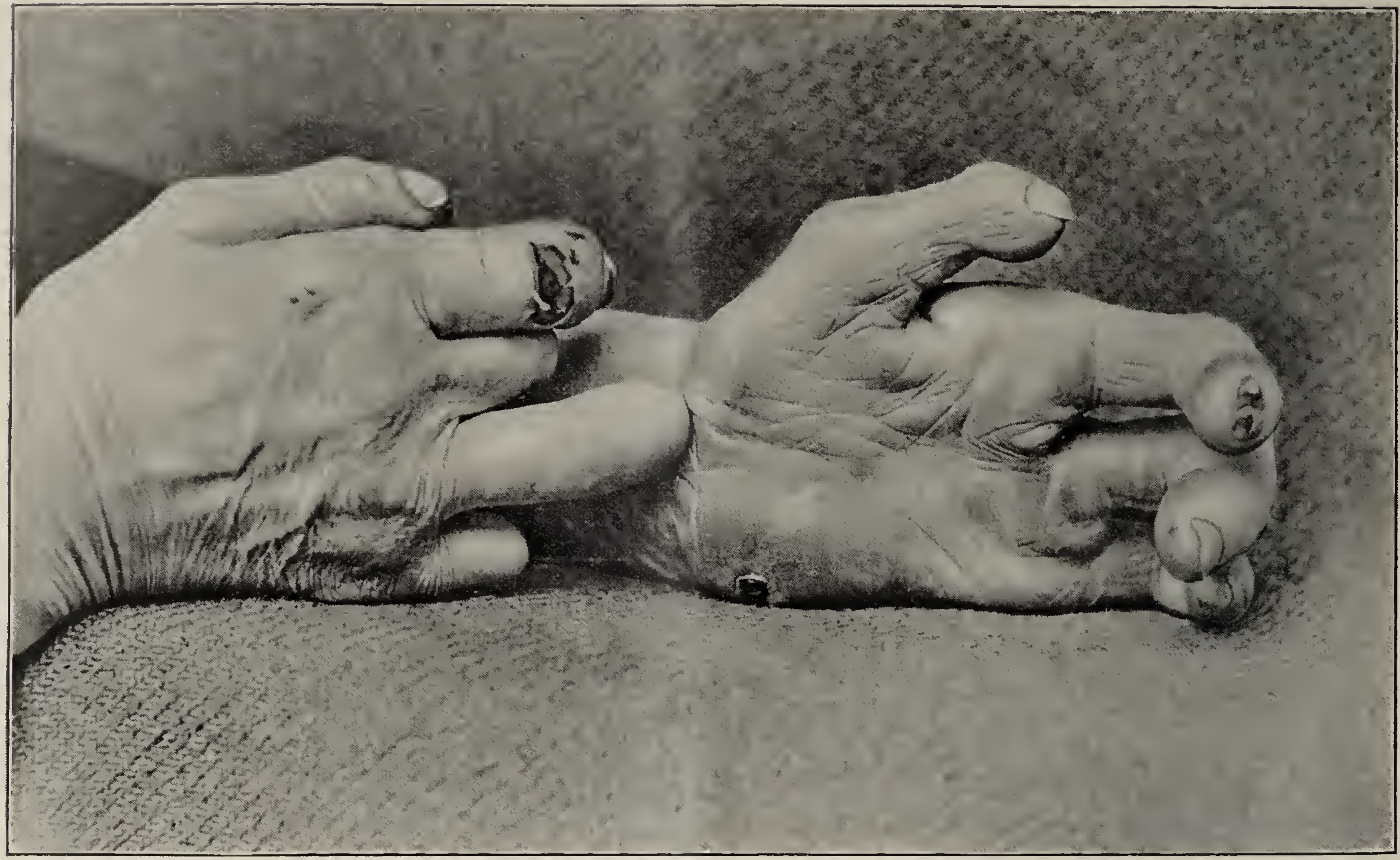

Fig. 1.

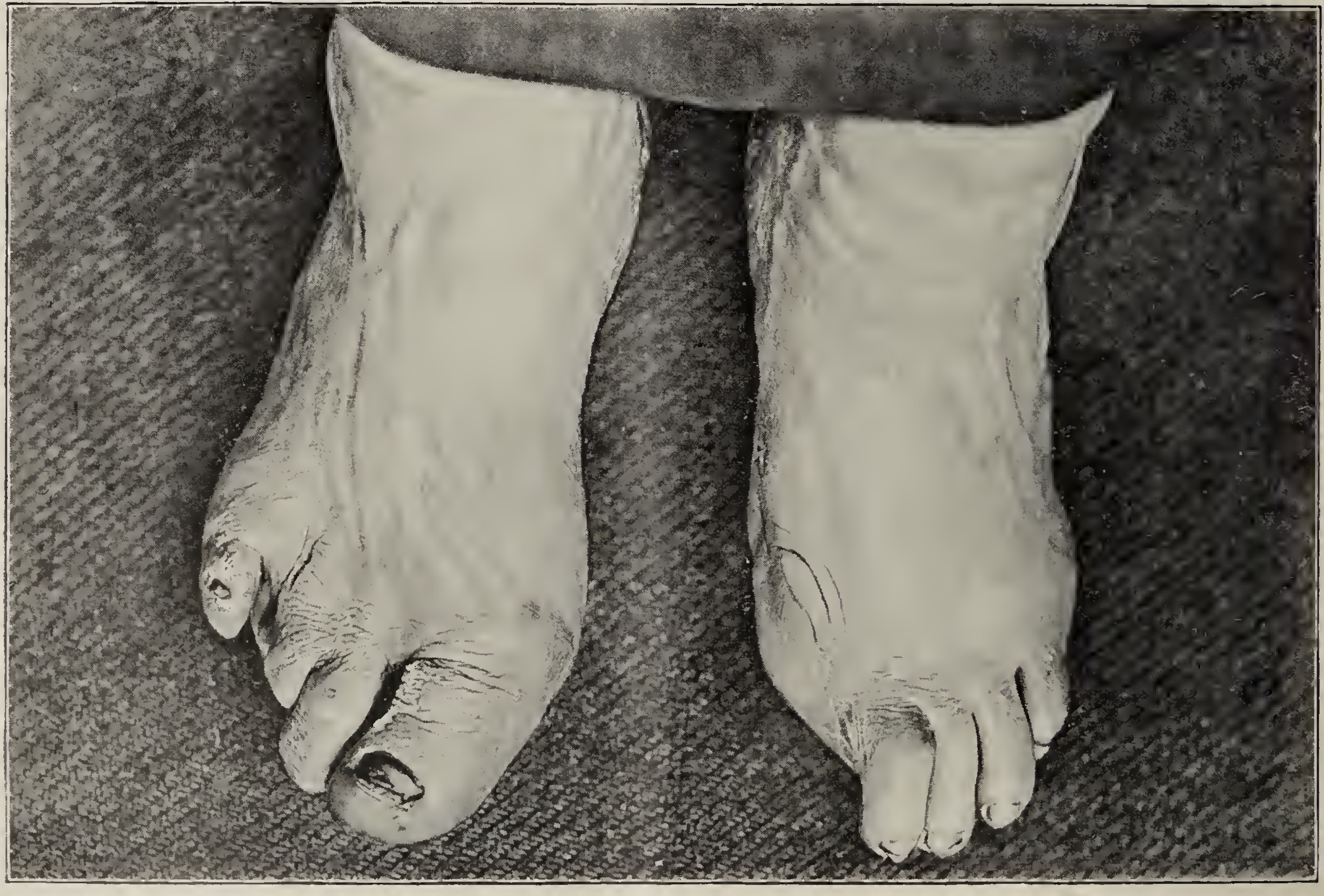

Fig. 2.

DR. TAYLOR'S CASE OF MULTIPLE NEURITIS OF SYPHILITIC ORIGIN

THE
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MEDICAL JOURNAL.

A
WEEKLY REVIEW OF MEDICINE.

EDITED BY
FRANK P. FOSTER, M.D.

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THE NEW YORK MEDICAL JOURNAL, July 5, 1890.

Original Communications.

A CONTRIBUTION TO THE STUDY OF MULTIPLE NEURITIS OF SYPHILITIC ORIGIN.[*]

By R. W. TAYLOR, M. D.,
SURGEON TO CHARITY HOSPITAL, NEW YORK.

Among the many yet unwritten chapters on the ulterior effects of syphilis upon diatheses and dyscrasiæ, on its symbiosis with other morbid processes and conditions, and on the various tissues, notably cerebro-spinal, arterial, muscular, visceral, dermal, and mucous, is the one which shall establish its relation to the morbid process in the peripheral nerves, which is found early and late in its course, and even perhaps many years after it has seemingly disappeared from the economy. While our knowledge of the syphilitic affections of the brain and spinal cord is very extensive and in some instances full and systematic, that relating to the effect of the disease upon the peripheral nerves is notably fragmentary and unsatisfactory. This is especially the case as to the relation which syphilis bears as an ætiological factor in the causation of multiple neuritis, a subject which has as yet received the attention of only a few observers. The reasons why the multiple neuritis of syphilitic origin is so little known are, first, that our knowledge of the general subject is yet in its infancy; second, that cases in which syphilis is a causative factor (at least seemingly) are very rare; and, thirdly, that its connection with the nerve disorder is, for various reasons, such as the incompleteness of the history of the case, the possible late evolution of the neuritis, and the absence of concomitant or commensurative symptoms or lesions is overlooked.

Our knowledge of multiple neuritis may be said to have been formulated and systematized within the past five or six years, though, of course, the observations and studies of many physicians over a long stretch of years led up to the era of light. It is a subject of congratulation that American observers have played no small part in the study of this subject, and have aided materially in its partial crystallization. As it stands to-day, the subject of multiple neuritis is weakest in the direction of ætiology and pathological anatomy, but hopeful signs are to be seen on all sides, and, as time goes on, anomalous facts will be reconciled and lacunæ will be filled.

In this paper I wish mainly to put on record a case carefully observed for many years, in which, coincidently with the evolution of secondary syphilitic manifestations, a nervous disorder began and has since continued unchanged, attended with marked symptoms and leading to peculiar mutilations. It is, in my judgment and in that of friends well versed in neurology, a well-marked instance of multiple neuritis. Seeing that this paper is an *avant-courier* in this particular branch of the subject of multiple neuritis, I have thought it worth while also to present a *résumé* of its literature.

In the year 1879 Buzzard[*] published a lecture in which was detailed a case of sciatica with muscular wasting and weakness of the limbs, which that author considered to be caused by syphilis. In 1881 Ormerod[†] presented to the Pathological Society of London a case of painful enlargement of the median nerve of the upper extremity, which he thought was the result of hereditary syphilis. This communication was followed by a second consideration of this subject by Buzzard,[‡] who detailed the history of a case in which there was paralysis of the muscles of the face and of both the upper and lower extremities and of the trunk, with disseminated anæsthesia.

The next paper on this subject was by Ehrmann[#] in 1886, and it was followed by a communication by C. K. Mills[‖] before the American Neurological Association. Then, in 1888, Laschkewitch[^] published a clinical lecture upon this subject, which is very unsatisfactory, for the reason that the history of syphilis in the case was not well established. In this same year Leyden[◊] published two lectures on inflammation of peripheral nerves, in which he speaks of a case in which he thought the nerve affection was caused by syphilis. Finally, in the recent excellent compendium of Bowlby[↨] we find a section upon neuritis of syphilitic origin, in which the cases of Buzzard and Ormerod are given and a personal case briefly detailed.

The foregoing are the only communications I can find after a tolerably extended search in medical literature. As a further evidence of the paucity of knowledge of the influence of syphilis in the production of neuritis, I may say that the author of the admirable Middleton Goldsmith lectures[↕] upon multiple neuritis which have done so much to enlighten the medical mind, both at home and abroad, does not recognize syphilis as a cause, nor does he quote a case in which such a relation was claimed, though he recognizes in his category of causes the direct action of such infectious diseases as diphtheria, variola, typhoid and typhus fevers, tuberculosis, and malaria.

In addition to the ætiological bearing of my case, I shall call especial attention to certain features of resemblance between its lesions and those of leprosy, which open up a subject now little known and understood.

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[*] Read before the American Association of Genito-urinary Surgeons at its fourth annual meeting, June 4, 1890.

[*] Clinical Lecture on Cases of Neuritis, Syphilitic and Rheumatic. *Lancet*, March 1, 1879.

[†] *British Med. Journal*, 1881, vol. i, p. 88.

[‡] Harveian Lectures on Some Forms of Paralysis dependent upon Peripheral Neuritis. *Lancet*, November 28 and December 1, 1885.

[#] Ein Fall von halbseitiger Neuritis spinaler Aeste bei recenter Lues. *Wiener mediz. Blätter*, 1886, Nos. 46 and 47.

[‖] Notes of Some Cases of Multiple Neuritis (or Myelitis) of Syphilitic Origin, with Remarks on the Difficulty of diagnosticating Multiple Neuritis from Some Forms of Myelitis. *Medical News*, August 20, 1887 and *N. Y. Medical Journal*, July 3, 1887.

[^] Neuritis multiplex chronica luetica. *Russ. Med.*, St. Petersburg, 1888, vol. i, pp. 87 to 90.

[◊] Die Entzündung der peripheren Nerven, deren Pathologie und Behandlung. Berlin, 1888, p. 26.

[↨] Injuries and Diseases of Nerves and their Surgical Treatment, Philadelphia, 1890, p. 460 *et seq.*

[↕] *Med. News*, vol. l, 1887, Nos. 6, 7, 8, and 9.

The history of my case is as follows:

The patient is a female, married, a domestic, born in Norway, and forty years of age. While she can not be called stupid, she is far from being very bright and may be said to be rather weak-minded. She has been in America since her twenty-fourth year, and has no knowledge of ever having seen or having come in contact with lepers or having lived in the vicinity of such sufferers. She entered Charity Hospital in June, 1882, and has been under my observation for long and short periods until 1887, and has since been seen by me frequently from time to time until now. It was very difficult even in 1882 to get a clear chronological history of her illness, and to-day it is almost impossible. It thus happens that when at Bellevue Hospital, within two years, she stated that she was infected with syphilis fifteen years ago, and she gave other incorrect information as to the early phases of her syphilis. In early life she had measles, scarlatina, pertussis, and diphtheria, but she grew up a strong and healthy woman. When she entered Charity Hospital in 1882 she gave us the impression that she had been syphilitic then eight years, though various very cogent facts showed quite clearly that infection took place at a much later period. She maintained that her infection began during her first pregnancy, more than eight years before, but it seems very probable that after parturition she had a simple erythematous and furuncular eruption upon the legs, with an exacerbation of a mild form of rheumatism, from which she had suffered for years. Certain it is that her second child, like the first, was free from syphilis, and that she had not taken antisyphilitic remedies, which had induced a latent condition of the disease. Her third child was also free from syphilis, and she, before and just after its birth, showed no evidence of the disease. When she came to Charity Hospital she brought with her a baby girl (the first and only offspring of a second husband) which was two months old and was suffering from marked hereditary syphilis. The condition of the child clearly pointed to activity of syphilis in the mother. The latter had had no miscarriages after the birth of her second and third healthy children and before the birth of the fourth and syphilitic child. These facts, therefore, go to show that syphilitic infection took place in the mother between the dates of birth of her third and fourth children. Syphilis was probably contracted from the second husband, who went to sea during the woman's fourth pregnancy and has never been heard from since.

A careful consideration of all facts convinces me that the woman was infected rather less than two years prior to her first entry into Charity Hospital in 1882, therefore that she has now been syphilitic about ten years. I am thus careful in stating the case because the woman has told so many different stories, and it is important, in the study of her syphilitic history, to be correct as to its chronology.

In June, 1882, she had a typical syphilitic iritis and the copper-colored stains of a vanished eruption over the body, and particularly over the legs. She also suffered from rheumatism, which was worse at night. The truth was that the woman gave ample evidence of being in the power of active syphilis which, owing to absence of treatment, had run on unchecked. She was thin and weak, and responded badly to medicine.

Early in the year 1882 (in the last half of the second year of syphilis) she noticed that the sensation on the backs of both hands was impaired, and when she had been in the hospital a few weeks we found marked analgesia and anæsthesia over the backs of the fingers, hands, and wrists, particularly upon the left side. At this time she had pain in the eyes and dimness of vision, and the ophthalmoscope showed double neuro-retinitis. Under "mixed treatment" and local mercurial inunctions the morbid process in the eyes was promptly arrested and cured. But little effect was produced upon the causes underlying the analgesia, which extended slowly up the arms. During this time she also suffered from headaches, which were sometimes relieved by the iodide of potassium, at others by nervine stimulants (valerian, ammonia, etc.). It was noted that toward Christmas, 1882, the analgesia had extended up the arms as far as the elbows, and that it was complete on the extensor surfaces and was encroaching on the flexor surfaces.

In reviewing the case up to January, 1883, it was evident that the treatment (which, by the way, it was necessary to discontinue from time to time) had improved the patient's nutrition, had cured her iritis and neuro-retinitis, had at times relieved her rheumatism and headaches, but had had little, if indeed any, effect upon the sensory disturbances going on in the upper extremities.

It should be stated that coincidently with the analgesic symptoms pains, dull and aching and severe and lancinating, were complained of in the arms, together with a feeling of numbness and heaviness.

In February, 1883, a new order of phenomena was noted. The patient began to complain of tenderness, pain, and swelling in the left heel, and soon after in the corresponding foot. This pain extended up to the knee and was dull and seemingly deep-seated in character. It sometimes coexisted with the similar pains in the arms, and at others those of one region ceased, and again they seemed at times to oscillate between the upper and lower extremities. At this time diffuse hyperplasia was noted on the prominences of both cheeks, and a similar condition was found on the region of the left ankle. The appearances were those of acute diffuse gummatous infiltration into the skin, as well as into the subcutaneous tissue. At this time also there were tender spots of periostitis over the cranium and the headache was sometimes severe. In May, 1883, she weaned her baby, which under treatment had become healthy and blooming. At the end of 1883, a little less than two years from the date of onset of the sensory disturbances, it was found that the analgesia and anæsthesia had extended up each arm to the shoulder, being complete on the extensor surfaces and partial on the flexor surfaces. At this time also an analgesic spot was found on the dorsal aspect of the left shoulder. During all this period of increasing nervous disturbance the patient had complained of little, if any, impairment of muscular power. She took care of her baby and at times assisted in the general care of the ward, but toward the end of 1883 she burned, scratched, scalded, and in many ways injured and bruised her fingers, owing to the loss of sensation and tactile sense. At this time also she began to complain of numbness in the feet, and particularly in the toes.

In January, 1884, the following condition was noted: Beginning at the toes, the analgesia extended up both legs, but more markedly on the outer and anterior aspects, nearly to Poupart's ligament. Though analgesic, there were spots and patches in which some sensibility to light and hard pressure could be felt. During this year the patient complained at intervals of numbness of the upper and lower extremities, and often said that her arms felt as heavy and unwieldy as if they were dead. Though the analgesia was complete from the shoulder down, the prick of a pin could be felt in the palm of the hand. It was noted at this time that examinations were made of the nerves forming the brachial plexus, and that it could not be determined that they were perceptibly thickened. For months the patient suffered paroxysmally with severe headaches, which prevented sleep at night. In the summer of 1884 the degenerative changes began in the fingers, owing to bruises, burns, and to the development of panaritium, and they continued to attack one finger after another during the following four years. These degenerative changes began in indolent ulcers and bullæ, resulting from various traumatisms which showed no tendency to heal, but caused the tissues—dermal, fibrous, and bony—to slowly melt away by molecular necrosis. In this way first the skin and fibrous tissues disappeared, and then portions of the bone in spicula and in the form of detritus. When the degeneration was not very active and extensive, healing occurred—as, for instance, when the tip of a thumb was attacked—but in most instances unsightly and painful deformities were produced, which required surgical intervention to bring about sightly and tolerably serviceable stumps. It was frequently remarked that fingers and toes which had been the seat of obstinate ulcers usually healed kindly after amputation, partial or complete, followed by proper dressing.

An inspection of the engravings will show the appearances of the hands and feet as they exist to-day. On the right hand (see Fig. 1) the soft parts of the last phalanx have disappeared; of the index finger nearly all of the first phalanx is absent, and a characteristic ulcer may be seen over its dorsum. The last phalanx and a part of the second of the middle finger, the last phalanx of the ring finger, and half of the little finger are shown to be absent. On the left hand there is loss of the distal part of the thumb; on the index finger the nail and its bed, destroyed by panaritium, may be seen; the middle finger has disappeared, owing to successive amputations; and the two remaining fingers are in fair condition.

The appearances of the feet are well shown in Fig. 2, and do not need further specification. The deformity was great and unsightly, and it grew more marked as years went on by the gradual contraction of the flexor muscles, giving the hands the appearance of claws. A person unfamiliar with the case might readily take it to be one of anæsthetic leprosy, and, indeed, several very competent men leaned toward this opinion.

During the years 1884 to 1886 the patient was in and out of the hospital at irregular periods, and the treatment was far from being as systematic and thorough as it should have been. She at one time suffered from left bursitis, at another she was attacked with gummatous infiltration in both legs, and later an iritis appeared again in the left eye, which had been attacked some years before. Then keratitis attacked this eye, and in its train left a leucoma. During this period also the patient suffered from several mild attacks of facial erysipelas, and as a consequence the atrophy of the skin of the face, which had taken place some years before, became more pronounced, and as a result a double ectropion was produced, so that the patient can not close her eyes without the aid of her fingers.

It may be well to mention the fact that the aching pains and numbness in the limbs, which began as early as 1882, were complained of during the years above mentioned.

The foregoing facts will, I think, give a very clear idea of the course of the disease in this patient and of the ravages produced by it. From 1877 until now (June, 1890) the woman's condition was not materially altered. By reason of the mutilations of the hands she has been unable to gain her living, and is capable of very little and rather limited manual labor. She can walk fairly well. In this condition she oscillates from one charitable institution to another; within a year or two she has been in Bellevue Hospital, under the care of my friend Dr. C. L. Dana, who has kindly given me the notes of her case taken by him. She is to-day fairly well nourished, has a good appetite and average strength; her mental state is fully as good if not even better than it was when I saw her first in 1882. There is diminished sensation of the cornea, but the patient can feel an object placed against it. She is in no manner hysterical. She can not move the muscles of the face to any extent so as to frown or wrinkle the forehead, which she could do fairly well several years ago. Sensation is diminished in a marked manner over the distribution of the supra-orbital frontal and nasal nerves, though there is still some sensation over the bridge of the nose. The sensation over the distribution of the occipital nerve is still good, though over the rest of the face sensation is altogether absent, except over the distribution of the mental nerve, where it is still good. There is good power in both arms and legs and no diminution of muscular sense nor ataxia. There is now some tactile sensation in these parts, though markedly diminished. Sensation on the trunk is present, though much blunted; there is a total loss of sensation from the shoulders down, except a small fold at the elbow and a narrow strip on the inside of the arms below the axillæ. On the lower limbs there is a total loss of sensation as far as Poupart's ligament anteriorly, and up to the fold of the buttock posteriorly. Plantar reflex is absent, though the patellar reflex is present. There is no ankle clonus, though there is some at the patellæ. The sense of taste is unimpaired and the vision is not perfect.

During all these years headache has been a rather constant symptom, and it has usually been benefited by large doses of iodide of potassium and of the mixed treatment. At times the patient has suffered from intermittent fever of the tertian and quartan types.

The clinical history of this case is so clear and full that I think it needs no further elaboration. Its symptoms and course point unmistakably to degenerative changes in the nerves of the face and upper and lower extremities. Throughout its whole course the case presented no symptoms pointing to lesions of the brain and spinal cord, therefore I think there can be no doubt that it is an excellent instance of multiple neuritis.* This brings us to the question of ætiology. As the literature and our knowledge of syphilitic multiple neuritis were almost wholly wanting during the early years of this case, I was for a time uncertain as to its real nature. But, as contributions have appeared and our knowledge of the general subject has expanded, my conviction has grown strong that the chronic morbid changes in the nerves of this patient were caused by syphilis. A brief review of the case shows that about eighteen months after syphilitic infection analgesia appeared in the backs of the hands of this woman. This symptom in her was, as I myself observed, precisely similar to what we occasionally see in recently syphilitic women, particularly those suffering from a chlorotic condition or from a neurotic or hysterical state. In most women this analgesia of the secondary stage of syphilis is transitory in character and disappears in one or more months, and in exceptional cases is found to relapse. In the present case the disturbances in the portions of the nerves situated in the dorsum of the hands did not end there, but increased until the fingers were involved, and they also slowly spread up the arms even as far as the trunk. Later on a similar disturbance appeared and ran a similar course in the legs. Coincidently with the development and course of this nervous affection we find that the woman presents at all stages unmistakable lesions of syphilis in other parts of the body, such as the eyes, the subcutaneous connective tissues, and the fibrous tissues. Certainly no history of concomitant symptoms in a case could be clearer and more satisfactory. The next question which arises is, What was the nature of the lesion of the nerves? From a study of this case, aided by our knowledge of the tendency of syphilis to produce inflammation in connective tissues, I am led to believe that the morbid change begins as a low grade of inflammatory process in the fibrous elements and envelopes of the nerves, and that, as this increases, hyperplasia of these elements occurs, which results in compression and degeneration of the nerve tissues. This conclusion is warranted by the knowledge we possess of the pathological anatomy of multiple neuritis. It is very probable that the neuralgias of syphilis are due to hyperæmia and inflammatory changes in the nerves, and that these conditions, demanding prompt relief, by reason of their severity, are usually dissipated by active mercurialization before structural degeneration of the nerve tissues has taken place. In this connection, I think, a brief history of the following case will be of interest:

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* Cases of neuritis affecting the upper and lower extremities and leading to deformities similar to those of my case have been published by several observers; but in these there was no history of syphilis, nor did any of their symptoms point to the origin of the affection in leprosy. Hückel publishes two such cases (Zwei Fälle von schweren symmetrischen Panaritien auf trophoneurotischer Grundlage, *Münchener medicin. Wochenschrift*, July 2 and 9, 1889)—one of a woman thirty-eight years old, and a second of a man aged thirty-seven years. In both cases there were anæsthesia and analgesia with chronic symmetrical ulcerative and necrotic processes and atrophy and paresis of muscles. The upper extremities in both cases were involved before the lower ones were attacked. Some of the cases reported by Morvan and others are similar in their clinical history and in the deformities thus produced. The reader is referred to the following articles upon this subject: Le panaris nerveux, *La France médicale*, 1881, ii, pp. 325–331, by Quinquaud; De la parésie analgésique à panaris des extrémités supérieures ou paréso-analgésie des extrémités supérieures, *Gazette hebdomadaire de méd.*, Paris, 1883, 2. S., xx, pp. 580, 590, and 624, by Morvan; Nouveaux cas de paréso-analgésie des extrémités supérieures, *Gazette hebdomadaire de méd.*, Paris, 1886, 2. S., xxiii, pp. 521, 537, and 555, also by Morvan. (The disease described in these two

A merchant, aged thirty-six, large and robust, but a little flabby, a good liver, and a fair drinker, presented an infecting chancre of sixteen days' incubation early in September, 1889. Late in October secondary manifestations—roseola, malaise, pain in joints, and erythema of the pharynx—appeared. He was at once placed upon an active syphilitic treatment, which he followed with considerable regularity for three months. At the end of this time he became negligent and indulged too much at the table, partook of too much wine, and took very little exercise. Toward the end of March, 1890, he caught a severe cold from exposure, and began to feel a slight tenderness on sitting and in walking in the left large sciatic nerve. Regarding it as an ephemeral trouble, he kept at business until the pain, which was continuous day and night, became so severe that he was forced to take to his bed. Under the influence of local mercurial frictions, with continuous dry heat, together with full doses of iodide of potassium internally, respectively thirty and fifteen grains, the severity of the pain was checked and he was able to go about with a stick in less than a fortnight. While confined to bed he had experienced pain in the parts supplied by the anterior cutaneous nerve of the same side. At this time he called attention to a number of ill-defined red patches on the inner surface of the same leg and upon the calf. Upon examination, I found six subcutaneous, not well circumscribed, doughy masses of infiltration, which were decidedly tender on pressure and the seat of soreness in walking. Urgency of business caused this gentleman to go about sooner than was prudent, and he became somewhat worse. His sciatica remained in a subdued condition, being merely a tenderness, but the pains in the anterior cutaneous nerves became rather worse. Then the subcutaneous nodules became darker in color, quite clearly circumscribed, and the seat of pain and tenderness; in other words, they developed into an eruption of typical precocious gummata. The iodide was given internally in fair quantity, and equal parts of mercurial and belladonna ointments were applied to the gummata by means of a bandage and a closely-fitting stocking. The result was that the pain in both nerves and gummata grew slowly but surely less, and that the gummata became less painful and were slowly absorbed. No local treatment was used for the neuralgia of the cutaneous nerves, but it subsided coincidently with the absorption of the subcutaneous nodules, some of which seemed fully two inches in thickness.

It is interesting to note that, synchronously with the appearance of the neuritic phenomena, typical dry onychia and separation of the nails began on several fingers of both hands and on several toes of both feet. These likewise showed signs of improvement under the local use of mercurial ointment and the general treatment. I may here remark that it has often struck me very forcibly that some of the earlier nail lesions of syphilis seem to be the result of tropho-neurosis, while others are due to inflammatory and infiltrative processes.

In this case we find that, shortly after the onset of neuralgia of the sciatic nerve in a patient suffering from early and active syphilis, true subcutaneous gummatous nodules, which we know have their nidus in the connective-tissue structures, are developed, and that the nerve changes and subdermal changes are coincidently relieved and cured by active antisyphilitic medication, local and general. I think, therefore, taking all the facts into consideration, that the conclusion is warranted that syphilis caused the nerve affection and the subcutaneous new growths by reason of its known tendency to produce hyperæmia and hyperplasia of the connective tissues. In this connection I may say that I have recently had under observation a syphilitic lady who suffered from neuralgia of the anterior crural nerves and precocious gummata of the legs, both of which disappeared under antisyphilitic treatment.

Why syphilis causes neuralgias in some cases and analgesia and anæsthesia in others is a problem yet to be solved. With only nine cases at our disposal it is evident

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articles has been called Morvan's disease.) Sur un cas de panaris analgésique, *Annales de dermat. et syphiligraphie*, 1885, p. 282, by Broca; and Nouveau cas de panaris analgésique, *Gazette hebdomadaire de méd.*, 1887, p. 345, by Colleville.

that the chapter on the symptomatology of multiple neuritis of syphilitic origin can not now be written. It is worth while, therefore, I think, to present a brief and clear synopsis of the cases of other observers, since it will be of interest in connection with my own case and of aid to others in the study of this affection.*

Ehrmann's case, observed in Neumann's clinic, is reported in order to show conclusively that, in the active and earlier stages of syphilis, the peripheral nerves may be affected by neuritis. Its history is as follows:

A man, thirty-eight years old, entered the hospital on the 16th of December, presenting a hard chancre and generalized secondary eruptions. In his urine a large quantity of albumin, cylindrical epithelium, red and white blood-corpuscles, and epithelium from the pelvis of the kidney, were found. Under the influence of hot baths and iodide of potassium internally he seemed better in about six weeks, and the albumin was no longer found in the urine. A little later on he became jaundiced, and on the 29th of April periostitis of the left tibia caused the resumption of the iodide. Then, in a short time, periostitis of the external malleolus of the left side, pain in the tendo Achillis and in the gastrocnemii muscles, and swelling and pain in both cuboid bones, were complained of. Then it is noted that pains were felt in the first and second phalanges of the left ring finger, and a sensation of tingling on the ulnar side of the left forearm and in the ring and little fingers of the same. Careful examination of the brachial plexus showed that the nerves were very sensitive to pressure in their whole length, notably the ulnar nerve. This sensibility was well marked at the internal condyle, but it was still more pronounced in the middle of the anterior surface of the forearm; was very active at the ulnar side of the palm, from whence it extended to the ring and little fingers. Pressure upon the median nerve caused much less pain, but none in the radial. Examination showed that the nerves on the left side were much more distinctly felt than those of the right and unaffected side. The interosseous spaces of the left hand, between the metacarpals of the ring and little fingers, were visibly depressed, and all the muscles supplied by the ulnar nerve were atrophied. Extension of the ring and little fingers was incomplete at the phalangeal articulations, and they could not be moved the one on top of the other, nor could the patient place the ring finger over the middle finger.

Tests of sensibility showed hyperæsthesia of all the ulnar side of the forearm, especially at its lower portion. On the bend the hyperæsthetic zone included the parts supplied by the ulnar and median nerve, and slight punctures with a needle produced small bullæ, surrounded with a red areola. Ehrmann looks upon this fact as evidence of vaso-motor disturbance. Heat and cold produced pain in the hyperæsthetic zone. The electrical irritability of the ulnar and median nerves was diminished; patellar reflex was well marked on both sides, and the tendon reflex of the upper extremities was the same on both sides. A fair amount of improvement was produced by the iodide, in doses of thirty grains daily, but the symptoms were still manifest in July.

Buzzard's first case was that of a man, aged thirty-one, who suffered from pain in the right leg along the course of the sciatic nerve and its branches. The patient had lost flesh and the leg was weak and withered. The history of syphilis was not at all clear, and the diagnosis of a specific origin of the trouble was based largely upon a putative node on the right femur. Under the influence of iodide of potassium the pain ceased and the node was absorbed.

Buzzard's case, in his second contribution, was as follows: W. H., a workingman, aged forty-four, of previous good health, in January, 1873, had double facial paralysis, total absence of power of voluntary contraction in the muscles of either leg, the grasp of both hands was entirely lost, and there was partial paralysis of respiration and deglutition. There was incomplete paralysis of the right external rectus muscle and of the soft palate, especially on the left side. There was but little movement of the diaphragm and very imperfect action of the intercostal muscles. There was more or less anæsthesia of the body, extremities, and face. A sense of numbness and weight was complained of in each leg; the brain and viscera were seemingly in normal condition. This condition began a month previous, with numbness in the finger-ends and weakness in the legs, together with a pin-and-needle sensation and numbness in the calves, thighs, and buttocks. In a few days he could use neither arms nor legs. Owing to the syphilitic history obtained, he was treated with the iodide of potassium, and later with mercury. Improvement soon began, and in six months the patient was able to resume his employment, and later on was pronounced to be entirely recovered.

Ormerod's case was that of a woman, aged twenty-three, who presented an enlargement of the left median nerve in the upper arm. The nerve was thicker than a quill, and the muscles supplied by it were wasted. The two last joints of the index and middle fingers and the last joint of the thumb were anæsthetic. The skin of the last joint of the index finger had been red, glossy, and ulcerated, but the condition had passed away under treatment. There had been an attack of pain in the nerve five years ago, but this had passed off, leaving no permanent damage. Two and a half years ago the pain had recurred, leaving the present condition. The patient presented several unequivocal signs of congenital syphilis. In favor of this view were the facts that no other cause could be assigned, that the ulcer had healed under iodide of potassium, and that deafness had much increased during the few months preceding the last attack of neuritis.

In the discussion of this case Mr. Jonathan Hutchinson stated his belief that the patient's condition was probably dependent upon syphilis, but he had never seen a similar case in congenital syphilis, although he had seen an example of neuritis of one of the nerves of the arm from the acquired disease.

Dr. Mills regarded cases of pure and simple multiple neuritis as rare. He reported three with a distinct syphilitic history. He frequently found certain cases of paralysis in which a clear history of syphilis or of chronic alcoholism, or both, was present. These two factors were so often conjoined in the history of the same case that it was sometimes difficult to separate such cases into two subdivisions, one of which represented a type clearly syphilitic and the other clearly alcoholic. Sometimes he had been able to do this. His three cases, of which he presented the notes (which, unfortunately, are not published), presented the usual features, sensory and paralytic, of multiple neuritis, and he remarks that this affection, when due to alcohol, is almost similar in its symptomatology. Specific treatment benefited the former but had no effect upon the latter. Mills states that in these cases there are points of resemblance between neuritis, myelitis, and poliomyelitis. He believes that there are no clear diagnostic points between these affections which would enable us to say positively that here was a case of multiple neuritis, there one of diffuse myelitis, and, still further, one of myelitis anterior. There were symptoms which rendered the diagnosis probable, but more could not be said in certain cases with safety.

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* In this connection it is well to remember that cases of syphilis in which one or more fingers of both hands have become cold and livid, and even ulcerated, have been reported by Hutchinson (*Med. Times and Gazette*, 1884, i, p. 347), by Klotz (*American Journal of the Medical Sciences*, Aug., 1889), by Baron d'Ornellas (*Annales de dermatologie et de syphiligraphie*, June, 1888, p. 35 *et seq.*), and by J. E. Morgan (*Lancet*, July 6, 1889). In the present state of our knowledge an obliterating arteritis is the ascribed cause of this condition. The relation of the nervous system to it is yet to be determined.

Leyden's case is reported in a very cursory manner. It is as follows: A healthy young man, accustomed to muscular exercise, was attacked by terrible pains and paretic weakness of the arms, with distinct atrophy and pathological conditions with the electric current. When he consulted Leyden he presented a florid secondary eruption, therefore his neuritic symptoms were ascribed to syphilis. Later on the patient had a specific affection of the liver, and was finally cured of his syphilis, as well as of the neuritis.

Bowlby * speaks of the case of a man, aged fifty-four, who had suffered from syphilis for many years, in whom a gradual paralysis of the parts supplied by the ulnar nerve had commenced ten years before he came under observation. The hand was clawed, the interossei muscles and those forming the ball of the little finger were extremely wasted, and there was very definite atrophy of the ulnar side of the forearm. The skin supplied by the ulnar nerve was quite anæsthetic. This nerve could be felt behind the elbow as a thick, hard cord, not less than four or five times its natural size, the thickening extending along the trunk for about two inches. It was slightly painful and tender.

Several gentlemen of prominence who have seen my case were disposed to consider it to be one of leprosy. In the light of the history given, I think such a diagnosis is untenable. In this connection, however, I have thought it worth while to summarize the following case, in which a coincidence of leprosy and syphilis in the same subject is claimed. With this view I am not at all in accord, and I think that the facts which I have brought forward in this essay will convince others, as they have convinced me, that in Kaposi's case the nervous symptoms were produced by syphilis alone.

Kaposi's case,† shown before the Imperial Society of Vienna in 1888, was that of a man, aged thirty-one years, born of healthy parents in a country where lepra is not epidemic. In 1884 he contracted syphilis. After several years passed in Asia he returned to Germany for treatment of his syphilis. At that time he presented new lesions—ulceration of the palmar surface of the right index fingers, pains radiating from that finger to the shoulder, red spots upon the right hand, anæsthesia of the index finger, and hyperæsthesia of the other fingers of this hand. Later on new patches, similar to gummata, appeared. The circumference of the right arm became less than that of the left, while at the right wrist the circumference was a little greater than that of the left. The right index finger was longer than that of the left, and it presented a fusiform thickening. The right hand was covered with irregularly distributed, diffuse patches. The movements of the right arm were impaired, though muscular contractions were normal.

There was infiltration in the right superciliary region from the middle of the brow to the external angle of the eye, which at its internal edge was hard and elastic and became soft as it progressed outward. This infiltration, like that of the hand, was painful on pressure but in parts anæsthetic. Around it was a zone of hyperæsthesia. There were anæsthetic patches also on the hand.

Kaposi, in considering the ætiology of this case, says that the view that it might be due to syphilitic neuritis could surely be excluded for the reason that a spinal nerve can not be affected by syphilis unless it is in contact with a gumma. Further, he thinks that if syphilitic neuritis did exist it was not because of the cutaneous lesions, for he does not think that they were of syphilitic origin. Lupus was also excluded by him.

The clinical tableau, consisting of the anæsthesia, the rapid succession of the eruptions, the nature of the infiltration, the neurotic symptoms, and the functional troubles, he thinks prove conclusively that it was due to anæsthetic leprosy.

Kaposi states, however, that neither he nor his assistants could find the bacillus of leprosy, but he explains this by the fact that the disease was as yet in its initial stage. Further, he states that Hansen says that bacilli are never found in anæsthetic leprosy.

Kaposi looks upon this case as one showing the existence of syphilis and leprosy in the same individual, and states that it is the only example of this morbid coincidence which he has seen.

Danielssen once successfully inoculated a leper with syphilis.

40 West Twenty-first Street.

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* *Loc. cit.*, p. 463.

† Lèpre et syphilis chez le même individu. *La Semaine médicale*, 1888, p. 487.

ESSAY UPON THE CLASSIFICATION OF THE VARIOUS FORMS OF APPENDICITIS AND PERITYPHLITIC ABSCESS,

*WITH PRACTICAL CONCLUSIONS.**

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Up to within a recent period of time it was the prevalent belief that perityphlitic suppuration was located retroperitoneally, and most generally in the iliac fossa, whence it found its way to the surface by pushing aside the peritoneal reflection corresponding to Poupart's ligament. Willard Parker's method of incising perityphlitic abscess was based upon this view.

It can not be denied that the development of most circumappendicular abscesses seems to confirm this view, and that the rules laid down by Parker for the treatment of this group of suppurative processes have yielded, and continue to yield, very satisfactory results in very many instances.

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* Read before the New York Surgical Society, May 14, 1890.

Still, it must be said that the exceptions to Parker's type are considerable in number. Formerly they were classed as cases of general or localized "idiopathic peritonitis." Their treatment was non-surgical, and their issue very uncertain and often fatal.

We owe the better understanding of the elements of this phenomenon to Treves and Weir, but principally to McBurney, who demonstrated that in the vast majority of instances the formation of abscess in the right iliac fossa was due to intraperitoneal inflammatory processes, mostly of the vermiform appendix, and commonly accompanied by ulceration, necrosis, and perforation of this viscus. The frequency of the location of perityphlitic abscess near the parietes of the right iliac fossa is explained by the frequency of the superficial *situs* of the appendix in this region. In these cases the type of development so well described by Parker will prevail. But in a very large proportion of instances the vermiform appendix, either congenitally or in consequence of acquired peculiarity, occupies a deep situation, and in these cases an appendicular perforative process is sure to cause a deep-seated intraperitoneal abscess, more or less distant from the surface, hence infinitely more grave and dangerous both as regards its deleterious possibilities and the difficulty of diagnosis and surgical management. As soon as it became clear that widely different intraperitoneal forms of suppuration might be caused by extension from the appendix, and that their manner of development was wholly unforeseen and unaccountable, a violent oscillation in therapy was initiated by those who proposed, in all cases where the appendix was suspected of causing trouble, a bold exploration by abdominal section, and the extirpation of the appendix, or evacuation at all hazards of the purulent collection, wherever it might be found, and all this without delay.

Though this bold course of therapy has, in spite of its experimental character, yielded very good results in the hands of various surgeons, and although its adoption was absolutely necessary for establishing a clearer understanding of the nature of the morbid process in question, nevertheless it must be remembered that a vast proportion of perityphlitic abscesses do not need operative invasion of the free peritoneal cavity for their successful cure, and that a sweeping advice to the general profession to open the peritonæum in every case where appendicular trouble is suspected is, for obvious reasons, fraught with much unwarrantable danger.

Formerly it was considered purely accidental whether an intraperitoneal abscess would appear here or there, and the variability of the surroundings and location of these abscesses was deemed so irregular and erratic that, to the author's knowledge, no attempt was ever made to study the question whether a certain order of development did not prevail even in those forms of perityphlitic abscess which could not be classed with the well-known inguinal type described by Parker. If some light could be thrown upon the detailed nature of these seemingly erratic forms of circumappendicular abscess, instead of the crude general advice to "perform laparotomy," more precise, hence safer, methods of treatment would suggest themselves.

Let us first emphasize the fact that all intraperitoneal abscesses are of visceral origin, and that perityphlitic abscess in particular is due to inflammatory processes located in the vermiform appendix. Though not always, this form of abscess is mostly established within the peritoneal sac.

The proof of this assertion has been so manifold that it is only necessary to refer to the numerous cases of early appendicitis reported by McBurney and other observers, in which, on laparotomy, the free appendix was found to be tightly distended by a copious exudate, and more or less erect by dint of its extreme distention; its walls thickened, hyperæmic, occasionally exhibiting unmistakable signs of circumscribed necrosis with perforation imminent. This distension was uniformly produced by occlusion toward the gut. Occasionally decay had progressed to actual perforation and the formation of incipient abscess, surrounded by a protective barrier of recent adhesions of the vicinal serous surfaces. The appendix was invariably found to be the starting point of the trouble, and the affection, with rare exceptions, always intraperitoneal. Aside from the numerous instances in which the intraperitoneal and appendicular character of perityphlitis was established by positive observation, the following case may serve to show that the retroperitoneal space back of the iliac fossa is not the seat of abscess in typical cases of perityphlitis. In the spring of 1887 Dr. Lellmann, then on duty in the German Hospital, requested the author to operate on a case of perityphlitis pertaining to his service. The operation was delayed twenty-four hours on account of a misunderstanding, and the next day—a dense, painful tumor being found in the right iliac region—incision according to Parker was done, in spite of the circumstance that the size of the swelling had somewhat diminished since the previous day. The peritoneal lining of the iliac fossa was easily stripped up two inches beyond the external iliac vessels, so that the tumor was freely raised with it from the underlying tissues. No sign of inflammation was found, and, as the case was mending, it was not deemed prudent to incise the peritonæum. The very deep wound was drained and closed, but no pus appeared. Simultaneously with the healing of the incision the tumor disappeared, and the man was discharged cured within a fortnight after the operation.

We need not do more than hint at the causes of appendicular inflammation. Let us first mention the impaction of foreign bodies entering from the gut, acute or chronic forms of catarrhal or ulcerative (typhoid) enteritis, transmitted from the colon and leading to simple hypertrophy or to ulceration, both of these causing irregular constriction mostly in the vicinity of the attachment of the appendix. Another not infrequent cause of stenosis is the doubling upon itself and fixation of the appendix in this position. Stenosis by flexion is thus produced (F. W. Murray, *N. Y. Med. Jour.*, May 24, 1890, p. 564). With the establishment of hypertrophy and stenósis a loss of contractile power is associated, leading to more or less complete retention and to the inspissation of fæcal matter, which finally assumes the shape of one or more globular concrements. As long as the communication with the colon is fairly open, no local symptoms need prevail. As soon as the stenosis becomes considerable, the well-known signs of appendicitis make their appearance. If they are due to a passing state of catarrhal hyperæmia, their acuteness will vary in proportion with the intensity of the stenosis. Thus, with the cessation of causal intumescence and the elimination of the stenosis maintained by it, all trouble may seemingly or really disappear. A case reported by Shrady * aptly illustrates this train of symptoms:

> A physician had had four distinct attacks of appendicitis, in all of which the question of operation arose. Dr. Shrady had seen the patient at New York in three of the attacks, all of which were well pronounced, while the fourth occurred in Paris, where the patient was seen by a distinguished surgeon, who made a like diagnosis. There also the question of an operation came up. Each attack was attended with all the usual severe symptoms which would appear to usher in the formation of an abscess; there was dullness, tenderness, more or less rigidity, and some œdema in the neighborhood of the cæcum. In each attack the advisability of operation was freely discussed. The patient was willing to take the risks, but in each instance the symptoms gradually disappeared, and he recovered. He asked Dr. Shrady, should he survive him, to examine his appendix, which was done when death occurred, some time subsequently, of another cause. *The appendix was found perfectly sound.* There was not the slightest appearance of any inflammation around it; it was not even thickened.

Where ulcerative processes have led to the formation of a permanent cicatricial contraction, the appendical trouble is apt to persist even after the cessation of the causal disorder of the intestine. Passing states of local intumescence are then more likely to lead to complete occlusion of the communication between gut and appendix, with serious consequences. But even in these cases temporary improvements are possible with the diminution of the acute swelling of the cicatricial mass.

Before attempting a practical classification of the phases of appendicitis and of the localities in which circumappendicular suppuration is to be observed, this fact has to be pointed out: that, unfortunately, the acuteness or mildness of the local or general symptoms is not an invariable index of the ultimate gravity of a given case. Sometimes fatal cases will set in with a very deceptive mildness of appearances. On the other hand, a very alarming beginning may be followed by resolution or a tractable state of affairs. Hence it must be insisted on that, in reference to this trouble, all therapeutic advice has only a conditional value —to be weighed and accepted or rejected by the surgeon in each separate case.

A. Acute Appendicitis (without Tumor).

(*a*) *Simple Appendicitis* (*No Tumor*).—Anatomy teaches that in the supine body the attachment of the vermiform appendix can be found directly underneath a point located two inches from the anterior superior spine of the ilium, on a line connecting this bony prominence with the navel. Whenever acute and persistent pain appears in this region, accompanied by fever and retching, the pain being markedly increased by palpation of this area, trouble of the appendix can be confidently diagnosticated. In women, bimanual palpation ought to exclude the presence of an inflammatory process of the displaced uterine appendages. Though the local and general symptoms may be very alarming, tumor can rarely, if ever, be detected in the early stages of the affection. Meteorism is also absent.

In view of the impossibility of foretelling whether, in a given case, spontaneous evacuation of the contents of the appendix or perforation is to take place, and in the latter case whether a superficial or a deep-seated abscess is to develop; and, considering the fact that laparotomy followed by excision of the appendix has yielded uniformly good results if done before the access of perforation, it is safe to follow McBurney's advice, which recommends laparotomy and removal of the appendix whenever severe symptoms persist and increase for more than forty-eight hours.

The steps of the operation are these: A longitudinal incision, four or five inches long, parallel with and just outside of the outer margin of the right rectus muscle. Having opened the peritonæum, the appendix is found, which will be rendered easy by first ascertaining the location of the caput coli. The mesentery of the appendix is included in a double ligature of stout catgut and divided. Then the root of the appendix is secured by two ligatures, between which the viscus is cut off. The mucous lining of the stump is either seared with the thermo-cautery, or, after careful disinfection, is touched with a few drops of perchloride-of-iron solution and dried off. Then the stump is dropped back and the external wound is closed.

Case.—Miss F. L., aged twenty, has had altogether sixteen or eighteen attacks of appendicitis within two years. Characteristic local pain, irregular fever with temperatures reaching 104° F., no tumor. Uterine appendages normal.

April 20, 1890.—Laparotomy. The free appendix is found very much thickened, its distal half distended and bent upon itself, containing a quantity of fœtid serum. It was removed. Uninterrupted recovery.

(*b*) *Perforative Appendicitis* (*No Tumor*).—Sudden increment and extension of the local pain followed by symptoms of collapse, such as profuse cold sweating, a thready pulse, anxious expression, pallor, frequent vomiting, and the appearance of meteorism are indications that perforation and infection of the peritonæum have taken place. This rarely occurs before two or three days after the inception of the trouble. The violence of the symptoms will depend on these factors. If the extent of the perforation is small, and only a small quantity of the infectious contents of the appendix has made its way into the peritonæum, a limiting barrier of protective adhesions may be thrown about the infected area within an hour or so. In this case the alarming features of the case will somewhat subside and a tumor is apt to develop. If, on the other hand, the perforation is large or multiple, a considerable volume of infectious material will suddenly escape. Lively peristaltic action will widely distribute it, and more or less extensive local or, in the worst cases, general septic peritonitis will be established.

The absence of tumor in conjunction with very acute local and general symptoms represents an extremely grave combination of things, its meaning being a generalizing peritonitis. In these cases the prognosis is very doubtful, and it will be extremely difficult to save the patient, even by the most resolute measures. If laparotomy is immediately done, the focus laid open, wiped out clean, the appendix removed, and the cavity packed and drained, some chances may still be present for the patient's recovery. But where, on account of delay, numerous and widely disseminated abscesses have established themselves in the more remote parts of the peritoneal cavity, the patient's death is nearly certain. Prolonged exposure, the impossibility of a sufficient evacuation and drainage of the foci which are found, finally the overlooking of distant foci located in the loins, in front and behind the liver, will sufficiently explain this fact.

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* George F. Shrady, Meeting of Practitioners' Society of N. Y. *Med. Record*, April 26, 1890, p. 479.

Case I.—William Sachse, aged forty-eight, liquor-dealer, was treated since September, 1889, in the internal department of the German Hospital for alcoholic neuritis. No habitual constipation.

March 23, 1890.—Sudden chill. Temperature, 105°. Slight amygdalitis. No abdominal symptoms. The temperature remained high, although the patient's bowels were well purged with calomel on March 25th. Had a chill in the preceding night, another one in the afternoon, complaining the first time of bellyache.

27th.—Pain well marked in ileo-cæcal region. Was transferred to surgical service. Temperature, 104·4° F. Meteorism, intense pain in ileo-cæcal region, but no tumor and no dullness. Vomited only once. Laparotomy at 3 P. M. McBurney's incision. Peritonæum filled with turbid serum. Omentum widely adherent to cæcum, in front of which an adherent and very much thickened and elongated vermiform appendix was found. On freeing this, a large, irregular abscess cavity was opened, which did not anywhere approach the parietes, and which was situated below and behind the cæcum, its walls being formed everywhere by intestines. At the root of the appendix a large perforation was seen, with three globular fæcal concrements lying in front of and outside of it. The appendix contained three more globular concrements of the size of a small marble. The appendix was isolated, tied, and cut off. Another large abscess situated in the median line, and a third one in Douglas's pouch, were opened, irrigated, and drained. Hasty partial closure of incision after packing and drainage of the abscesses on account of collapse. In the night the temperature rose to 106° F., and the patient expired toward midnight. Post-mortem examination revealed three more abscesses, one situated high up behind the liver.

Case II.—David Danziger, tailor, aged twenty-two. General peritonitis due to perforative appendical trouble of six days' duration. Laparotomy January 29, 1889, at Mt. Sinai Hospital. Seven abscesses were opened and drained. Patient seemingly improved, the quality of the pulse improving. Vomiting ceased, but he collapsed suddenly thirty hours after the operation and died. Post-mortem examination revealed three perihepatic abscesses.

B. Acute Appendicitis with Tumor; Perityphlitic Abscess.

Whenever perforation of the free appendix occurs, the invasion of the peritonæum is regularly signalized by the usual symptoms of perforative peritonitis. As before mentioned, a circumvallation by adhesions will form in those cases in which only a small quantity of infectious material has escaped. This seems to be the usual course of events. Occasionally, however, the inflamed parts of the appendix will first become adherent, and then be perforated. In these cases the alarming intermezzo possessing the typical aspect of perforative peritonitis will be missed, and the abscess will develop without a tendency to meteorism and collapse, and with a gradual but steady growth of the mainly local symptoms. The complex of symptoms has little of the character pertaining to peritonitis, and resembles that of an ordinary abscess.

By contiguous extension, which is mostly slow, these abscesses may assume very large proportions. Neglected for a long time, especially if they are limited by intestines only, their secondary rupture, followed by a chill and further extension, or even their generalization, may occur. This, however, is not common in the early stages of the process. The only case of this kind observed by the author occurred nineteen days after the inception of the trouble.

Case.—H. D., clerk, aged twenty, subject to alvine sluggishness, contracted, after a more than usually severe spell of constipation, a deep-seated, hard, painful, perityphlitic swelling. Cathartics failed to relieve the bowels, and, high fever with vomiting having set in, the author was consulted.

May 1, 1878.—Typical swelling of a cylindrical shape was made out in the right groin, and a number of repeated large injections of tepid water into the gut were employed without success.

3d.—The peritoneal symptoms, notably vomiting, became very distressing, wherefore this therapy was abandoned and opium treatment begun. At the same time an ice-bag was placed over the swelling. The change effected a decided improvement in the subjective symptoms, but the swelling continued to increase and the fever remained unrelieved.

17th.—Spontaneous evacuation of a large, formed stool occurred.

19th.—The general condition becoming very poor, incision was urged, but was firmly declined by patient and parents. Suddenly, in the night of the same day, perforative symptoms developed. The patient died, May 20th, of septic peritonitis. Post-mortem examination demonstrated an internal perforation of the abscess, and putrid septic peritonitis. Had the patient consented to the operation, the case might have turned out differently. Perforation took place on the nineteenth day after the invasion.

The presence of a tumor, which always indicates the existence of protective adhesions, implies a certain amount of temporary security and, under certain circumstances, may justify a short delay of the operation.

Types of Acute Perityphlitic Abscess.

Although the classification of perityphlitic abscess according to location can not be made with geometrical precision, yet it will be found that most cases can be naturally massed in a series of roughly defined groups. The small number of intermediate or transitory forms does not vitiate the practical value of this grouping, upon the right understanding of which must be based some important variations of the operative technique.

It is the author's wish to firmly maintain the importance of the principle that every intraperitoneal abscess should, if possible, be opened and drained without invading the normal peritoneal cavity—that is, through existing planes of adhesion to the parietes. With few exceptions, all perityphlitic abscesses have such an approachable side. To study, to ascertain, and to utilize them is the duty of the conscientious surgeon. It is idle to state that safely incising and draining an abscess through a laparotomy wound—that is, through the free peritoneal cavity—is an easy or indifferent matter. No competent person will believe it.

1. *Ilio-inguinal Type* (Willard Parker's abscess).—The normal situation of the caput coli and appendix vermiformis near the parietes of the right iliac fossa has the consequence that the great majority of circumappendicular suppurative processes will naturally establish themselves so as to have for one of their limiting walls the parietal peritonæum of that region. This has led to the erroneous belief that perityphlitic abscess is normally located behind the peritoneal lining of the iliac fossa.

This situation involves the great practical advantage that the abscess can be permitted to assume certain proportions so as to render its incision simple and free from the danger of invading the normal peritoneal cavity. Therefore, when an immovable tumor develops in the right iliac fossa soon after the inception of the malady, it is safe to wait a few days until the abscess has assumed a certain size. On the fourth, fifth, or sixth day it may be safely incised. Searching for pus with a hollow needle is superfluous when the abscess is superficial—that is, immediately beneath the parietes; dangerous if it is deep-seated, as the gut might be thus injured or the healthy peritonæum infected.

Case.—Francisca Bertrand, aged forty-five, was taken ill with fever early in July, 1882, and developed a deep-seated, painful swelling in the left iliac fossa, with high fever and peritonitic symptoms. On the afternoon of August 5th probatory puncture brought out some pus, wherefore, with the aid of the family physician, Dr. Assenheimer, incision was practiced by Hilton's method. A large quantity of pus escaped, and a drainage-tube and antiseptic dressing were applied. In the following night very acute peritonitis set in, to which the patient succumbed August 6th. No doubt the reflection of the peritonæum was injured, and part of the pus must have entered the peritoneal cavity.

The only safe way of opening these abscesses is by methodical and careful dissection, layer by layer being divided by an ample incision placed through the longer axis of the tumor. The vicinity of pus will become manifest by the discoloration and condensation of the tissues. When the abscess is opened and the bulk of its contents has escaped, a gentle exploration by the index-finger is advisable to detect recesses or a foreign body. But all rough treatment of the walls of the cavity by scraping, tearing, or rude squeezing is reprehensible, as it may lead to inward rupture. For the same reason search for and removal of the ulcerated or necrosed appendix from the abscess is to be avoided as unnecessary and dangerous. Two drainage-tubes are slipped into the cavity and fastened in the usual manner. They will facilitate irrigation without causing undue distention. A daily change of dressings will be required for the first week or ten days. As soon as the discharge becomes scanty and serous, the tube should be removed.

The ilio-inguinal type is undoubtedly and fortunately the most common form of perityphlitic abscess, and its time-honored therapy as laid down by Parker will have to be retained as safe and successful.

In sixteen cases of the ilio-inguinal group operated on by the author according to Parker's plan, only one terminated fatally, by erysipelas. The patient was under treatment for hip-joint disease when, unfortunately, the complication with perityphlitic abscess set in.

Case.—Ernestine S., servant-girl, aged nineteen, admitted March 2, 1880, to the German Hospital, with the diagnosis of hip-joint disease, the symptoms of which were indubitably present. Emaciating fever, and the characteristic flexion and adduction of the thigh, together with swelling of the gluteal and infrapubic regions, seemed to admit of no doubt. Examination under ether, however, revealed a fluctuating swelling of the right groin, which yielded pus on puncture, and was incised. A large quantity of pus and the stem of an apple or pear were evacuated. Another incision below Poupart's ligament established drainage of an abscess communicating with the perityphlitic gathering. The lower extremity was put into Buck's extension, and the cavities were daily irrigated. Operative measures, directed against the profuse discharge from the lower incision—that is, drainage or exsection of the hip joint—were contemplated, when the girl contracted erysipelas, and died of it in May, 1880. Post-mortem examination established the fact of hip-joint suppuration, a communication of the perityphlitic abscess with the joint being found, by way of the iliac bursa.

2. *Anterior Parietal Type.*—Next in frequency to the ilio-inguinal form of perityphlitic abscess is the type according to which the bulk of the purulent collection is found immediately behind the anterior abdominal parietes of the right side. Frequently this is associated with a more or less apparent ilio-inguinal tumor, and might be looked upon as its extension. The swelling is generally found behind the right rectus muscle, its shape vertically elongated, its upper limit occasionally extending beyond the level of the navel to the hypochondrium, its proximal margin to or beyond the median line. When an unmistakable continuation of the tumor can be traced into the right iliac fossa, the abscess can be safely opened above Poupart's ligament, as in the preceding group. But occasionally the upper extension will require a separate incision.

Case I.—Abraham Jacobson, tailor, aged twenty-two. Perityphlitic abscess of six days' duration, the iliac tumor extending inward and upward to the inner margin of the rectus muscle, the space above Poupart's ligament feeling empty.

November 19, 1888.—Typical incision at Mount Sinai Hospital, a little below and to the inward of the anterior superior spine; drainage. Retention of pus in the upper pocket, hence, November 26th, second direct incision. Rapid improvement.

January 17th.—Discharged cured.

Case II.—David Frank, butcher, aged forty-two. Perityphlitic abscess of eight days' duration; tumor extended upward along the line of the rectus muscle to within a hand's breadth of the costal margin.

December 8, 1889.—Incision two inches and a half to the inward of the anterior superior spine. Evacuation of about a quart of pus; depth of abscess, twelve inches; though the wound was doing well, surgical delirium set in, and the patient was transferred to his home December 24th, where, as his family attendant reported, he soon recovered entirely.

When it is found that the iliac fossa is normal and entirely void of resistance, and a circumscribed tumor can clearly be felt some distance from the ilium and Poupart's ligament, it is necessary to ascertain where to make a safe incision. If the extent of the tumor is great, a direct incision might be confidently made. But if the superficial extremity of the tumor is small, it will be safer to first open the peritoneal cavity in the median line by a small incision, and digitally explore the exact relations and extent of the adhesion. Having thus located the abscess, the exploratory cut is closed, and the abscess is incised by a direct route.

Case I.—Miss Evelyne H., school-teacher, aged twenty-three. Perityphlitic abscess of two weeks' duration. Small tumor to the right of median line, underneath right rectus muscle. Iliac fossa empty. *Per vaginam*, tumor was felt adherent to anterior abdominal wall, and with it bimanually movable backward and forward.

March 7, 1890.—Exploratory laparotomy in median line below the navel. Just to the right of incision, partly solid, partly fluctuating mass could be felt, its walls being evidently formed of intestine, among which the empty appendix was seen firmly attached. By passing the finger around the attachment of the tumor to the anterior abdominal wall, it was found that the iliac fossa contained healthy intestine, and that the tumor was in no wise connected with it. Fixation of tumor by fingers in abdomen; puncture through abdominal wall; fœtid pus. Closure of laparotomy wound by suture. It was sealed with a strip of rubber tissue moistened with a little chloroform. Incision of abscess along the line of puncture; evacuation of five ounces of pus. Uninterrupted recovery. Discharged cured, April 10, 1890.

Case II.—Mark Beermann, hat-maker, aged nineteen. Perityphlitic abscess of seven days' standing. Somewhat movable tumor underneath right rectus muscle on a level with umbilicus. Iliac fossa normal.

November 30, 1889.—At Mount Sinai Hospital, median exploratory laparotomy. Location of adhesion, which was very limited, was established by digital exploration. Closure of laparotomy wound. Incision and drainage of abscess. Discharged cured January 11, 1890.

Perityphlitic abscess of the anterior type may extend to and beyond the median line, when it will hold close relations with and may perforate into the bladder.

Case.—Henry Marks, aged seventeen, suffered from habitual constipation and frequent attacks of colic. In June, July, and August, 1878, severe attacks of colic were noted and overcome by the use of purgatives.

August 25th.—Dr. L. Weiss, the family attendant, made out typhlitis and ordered a laxative, which, however, failed to relieve the patient. Thereupon opium was methodically exhibited until September 6th, when the patient had a spontaneous and copious, formed evacuation.

September 7th.—The temperature rose to 104° F.; the external swelling in the right groin became very marked.

10th.—The author saw the patient in consultation with Dr. Weiss. A uniform puffy swelling was found occupying the right groin, and was extending beyond the median line of the abdomen. Frequent urination distressed the patient a good deal, who exhibited the usual hectic symptoms of long-continued suppuration. Deep fluctuation was made out, and evacuation of the abscess was determined upon. The transversalis fascia being gradually exposed, it was found infiltrated and firmly attached to the underlying tissues. A probatory puncture made in the bottom of the wound, close to the os ilium, gave pus, whereupon the abscess was freely incised, and a large quantity of matter was voided. No foreign body could be found. Digital exploration demonstrated a long sinuosity extending toward the median line to a pocket occupying the prevesical space. A drainage-tube was placed into the main abscess, another one was carried into the prevesical space, and the wound was dressed with carbolized gauze. The patient's wretched condition at once commenced to improve; appetite and sleep returned, and the profuse night-sweats disappeared.

20th.—The drainage-tubes became disarranged, and were found slipped out of the wound. Difficulty was experienced in replacing them, and symptoms of retention, with renewed pain and fever, set in again.

23d.—The author again saw the patient, and replaced the tubes. A considerable quantity of pus was found in the prevesical pocket. From this date on uninterrupted improvement was noted, and the patient got up October 10th. October 20th, the tubes were withdrawn, and October 30th the fistula was closed.

In this case imminent perforation of the bladder wall was prevented by timely incision.

3. *Posterior Parietal Type.*—Whenever perforative processes occur in an appendix located near the posterior parietes of the peritoneal cavity—for instance, near the right sacro-iliac synchondrosis or the lumbar region—the resulting abscess will naturally have a deep situation. Cases will occur in which incision of such an abscess can not be made unless it be done through a laparotomy wound. But there can be no doubt that in a certain proportion of these cases a safe incision may be made from behind.

Case I.—James Solomon, schoolboy, aged thirteen, April 18, 1889. Perityphlitis of five days' standing. In consultation with Dr. W. Morse, an indistinct, very deep-seated, and painful tumor was felt in the region of the sacro-iliac juncture of the right side. By April 22d the tumor had considerably enlarged, and seemed to lie just beneath the right rectus muscle. At Mount Sinai Hospital laparotomy was done the same day over the site of the swelling, which was found to hold no connection whatever with the anterior abdominal wall, but was firmly adherent to the posterior wall of the pelvis. The ascending colon formed the outer wall of the tumor. The appendix could nowhere be found, and was undoubtedly imbedded in the mass of the tumor. The anterior wound was closed, and a long hollow needle was thrust into the region of the tumor from behind, entering the pelvis a little to the inward of the line of the posterior superior spine, its direction being downward and forward. Pus was gained at great depth, and the abscess was incised and drained from there by a rather long and deep incision. All the febrile symptoms disappeared, and the boy was discharged cured June 3, 1889.

Case II.—Samuel Gross, tailor, thirty-three years old, was laparotomized at Mount Sinai Hospital, January 27, 1889, for internal obstruction of six days' standing. Fæcal vomiting was present, with enormous tympanites due to intestinal paralysis. The cause of the obstruction was found in a very long and much distended appendix vermiformis, the apex of which was firmly attached to the under surface of the right half of the transverse mesocolon. Through the loop thus formed about three feet of the ileum had slipped and had become strangulated. Corresponding to the attachment of the apex of the appendix a massive swelling was felt occupying the space behind the colon, and when the adhesion was severed, pus welled up from a small aperture corresponding to the site of the attachment. This led into an abscess cavity which was carefully evacuated. The appendix being removed, the intestines were replaced with considerable difficulty. The patient died an hour and a half after the operation. (For complete history, see *N. Y. Med. Journal*, May 4, 1889, page 478.)

Case III.—Mr. M. G., aged sixty-two, had been suffering from habitual and very obstinate constipation for years. In May, 1880, profuse diarrhœa set in, and could not be controlled by any of the usual dietetic and therapeutic measures. A grave deterioration of the general condition developed, and the patient lost very much flesh in spite of forced feeding.

August 31st.—Fever set in, and the presence of a painful swelling in the iliac fossa was made out.

September 3d.—The author saw the case in consultation with Dr. W. Balser and Dr. L. Conrad. A large fluctuating swelling occupied the right half of the pelvis, and tympanitic percussion sound was noted in the lumbar region. Two incisions were made—one above Poupart's ligament, another in the lumbar region—and an enormous amount of gas, pus, and fæcal matter was evacuated. Profuse secretion and diarrhœa continued, and the patient died September 22d.

Post-mortem examination revealed a tight cancerous stricture of the ileo-cæcal valve, and an enormous dilatation of the lower portion of the ileum, which resembled thick gut. Large masses of impacted fæcal matter were found in this pouch, which was adherent to the posterior parietal peritonæum, and was freely communicating through a number of ulcerous defects with the abscess cavity.

4. *Rectal Type.*—It is a good rule never to neglect to examine the rectum of a patient suffering from perforative appendicitis. A long appendix may become fixed and perforated in the small pelvis, and an abscess is then apt to develop in close vicinity to the rectum, whence it can be safely opened and evacuated. The objection that fæces might enter the abscess has thus far not been verified by experience.

Case.—August Petry, clerk, aged eighteen, was admitted, November 10, 1887, to the German Hospital with symptoms of perforative peritonitis. General tympanites prevailed, and a tumor could not be felt anywhere, but intense pain was complained of on pressure in the right iliac fossa. The poor state of the patient forbade operative interference, and opiates and stimulants were exhibited. By November 13th the patient had fairly rallied. An examination of the rectum disclosed the presence of a fluctuating swelling corresponding to its anterior wall. An incision evacuated a large mass of pus, and a drainage-tube was placed into the cavity and brought out through the anus. The tube was not borne well. It excited tenesmus, and was repeatedly expelled. As the patient was doing very much better, and the tumor had disappeared, it was left off without ill consequences. The patient was discharged cured November 27, 1887.

5. *Mesocœliac Type.*—To characterize that most serious form of circumappendicular abscess, the walls of which are composed entirely of agglutinated intestines, and which hold no immediate relation whatever with the parietes of the abdominal cavity, the term "mesocœliac" was chosen (from *αἱ κοιλίαι*, the intestines, and *ἐν μέσῳ*, between). The abscess is found occupying, as it were, the middle of the peritoneal sac. Hence, to reach and evacuate this form of abscess, the free peritoneal cavity must be opened, and the collection of pus must be reached by separating the adherent coils of gut which inclose it.

We owe the development of the *technique* of the evacuation of these abscesses mainly to McBurney, whose procedure is as follows: A longitudinal incision, as for simple appendicitis, is made parallel to and along the outer border of the right rectus muscle. The abnormal cohesion and resistance of the implicated intestines will point out the site of the abscess. The protruding normal coils of gut should be packed away under a protective bulwark of sponges held *in situ* by the assistants' hands, so that, if the abscess is opened unawares, no pus should soil the healthy peritonæum. Two of the nearest coils are now gently and cautiously separated by gradual traction, exercised by the operator's fingers, until a small quantity of pus is seen exuding. It is desirable to let the pus escape slowly, so as to have ample time to sponge it away as it pours out; otherwise the whole field might be overwhelmed and contaminated by a sudden flood of matter.

Note.—It seems that exhausting the abscess through a small aperture by means of a syringe would be an improvement upon the mopping up by sponges.

As soon as the bulk of pus has been removed, the cavity is wiped out clean with sponges dipped in an antiseptic solution, and now the adherent intestines are still more separated to permit the surgeon to inspect its interior. If the appendix is loose and easily to be got at, it can be removed, but, if it is found closely adherent and very brittle, it is better to remove only so much of it as will come away easily. A good-sized drainage-tube is placed into the bottom of the cavity, which is, in addition, loosely filled with strips of iodoform gauze. These and the rubber tube are brought out near the lower angle of the wound, and the abdominal incision is closed in the usual manner. If the case is progressing well, the packing can be withdrawn on the third day, as by that time protective adhesions will have formed between the adjoining coils of gut. The drainage-tube is to be removed as soon as the secretions become serous and scanty.

C. Chronic or Relapsing Appendicitis and Perityphlitic Abscess.

It was shown how simple catarrhal conditions of the mucous lining of the appendix may lead to more or less complete occlusion of the exit of this viscus. The retention of the secretions will then cause distension and the train of symptoms characteristic of appendicitis. With the diminution of the catarrhal swelling of the mucous membrane, a restitution *ad integrum* will take place. Usually the symptoms produced by this form are mild and tractable. Bland laxatives and opiates, rest in bed, with some form of local applications, generally bring about a lasting recovery.

Where ulcerative processes, prolonged inflammation, or the doubling of the appendix upon itself, have caused the formation of cicatricial matter—hence permanent stenosis of greater or lesser intensity—the recurrence of severe obstructive symptoms will be more frequent, the intervals between the attacks shorter and shorter, and the tendency to the formation of adhesions more pronounced. Thus the very chronicity of the process will yield, in its tendency to the formation of adhesions, a certain protective character.

Should perforation occur, these adhesions fulfill a most important function in preventing general septic peritonitis. The number of relapses of appendicitis may be very great; in one of the author's cases sixteen were counted. With the increase of the cicatricial stenosis, the formation of concretions, and the loss of contractile power of the appendix, the tendency to ulcerative or gangrenous lesions becomes more and more pronounced, and finally culminates in perforation.

As we have no means of ascertaining the exact condition of the appendix, frequent recurrence and increasing severity of the disorder clearly justify an attempt at its removal. The term "attempt" is used here purposely to signify that such endeavors may occasionally be baffled by intricate and close adhesions, which a prudent surgeon may prefer not to disturb for fear of lacerating the gut. It may be said, however, that, should the first attempt fail, a second one may be crowned with success.*

All surgeons admit the occurrence of the spontaneous evacuation of perityphlitic abscesses into an adjoining part of the gut. Occasionally perforations into the bladder, rectum, or even the pleura, have been observed and described. If such an evacuation into the gut is followed by a perfect obliteration of the cavity and fistula, no relapse will occur. Should evacuation be imperfect, inspissation of the retained pus and a temporary dormancy of the acute signs of the process will result, until some local irritation again provokes rapid intumescence, followed by evacuation of the surplus contents of the abscess. This process may be repeated a number of times, as a result of which a thick mass of cicatricial matter will be deposited around the focus. Cases of this order demand surgical interference.

Case.—Miss Caroline D., aged fourteen, had had within two years three attacks of perityphilitis with well-marked ilio-inguinal tumor, which never disappeared completely. On April 24, 1888, Dr. L. Arcularius presented her to the author, who advised an operation. A small immovable tumor could be felt occupying the iliac fossa. On May 1, 1888, an incision was made, and a small cavity of the size of a chestnut was laid open. Its walls consisted of a massive deposit of cicatricial matter, its contents of a putty-like mass of inspissated pus, surrounded by a coating of deciduous granulations. When all the soft matter was scooped out, a narrow sinus was traced to a depth of an inch and a half beyond the bottom of the cavity. The wound was packed, and was kept open with considerable difficulty during the entire summer, small quantities of feculent matter escaping from time to time. In the course of the following winter the tumor gradually shrank away, the discharge dried up, and, the tube being removed, permanent healing took place.

Had the outer opening been permitted to heal, recurrence of the abscess would have probably followed, as closure of the communication with the gut came about with a great deal of hesitancy. The same state of affairs may and does often prevail in abscesses that are evacuated by the surgeon, and in which the outer opening shows a more pronounced tendency to closure than the sinus leading from the abscess cavity to the gut. Thus the presence of a however minute fæcal fistula that has not healed soundly may bring about a number of recurrences in the tract of the old abscess. It stands to reason to say that inadequacy, both as regards the quality and duration of drainage of the abscess cavity, has a most important influence upon the retardation of the closure of the fæcal sinus. Hence the tendency to relapses will be very pronounced in cases where evacuation of the primary abscess took place spontaneously.

Case.—Frank Kennedy, printer, aged twenty-five, had suffered since childhood from a number of attacks of smart pain in the right groin accompanied by fever. In the early part of 1885 he acquired an oblique inguinal hernia of the right side, and was ordered to wear a truss, the pressure of which, if the pad became displaced outward, caused intense suffering, so that he had to abandon its use from time to time. In June, 1885, during a severe attack of fever, an abscess broke open two inches and a half below the anterior superior spine. Since then healing and reopening of the sinus had occurred four times. On March 3, 1886, a dense deep-seated tumor could be felt in the right groin, independent of the hernia, which could be easily replaced. Following the existing sinus, the center of the indurated mass was laid open by a large incision running parallel with Poupart's ligament. At the depth of two inches a globular smooth-walled cavity was exposed, within which, imbedded in frail granulations, a stratified coprolithon of the size of an unshelled almond was found. A channel of the diameter of a goose-quill was seen leading from this cavity inward and downward, into which could be slipped twelve inches of a slender drainage-tube. When water was thrown in through this tube, diluted fæcal matter regurgitated. Under the microscope this matter was seen containing granules of amylum and fat with fat crystals arranged in the shape of sheaves. The wound was kept packed with gauze till March 25th, and was healed, seemingly from the bottom, by April 14th. On November 15, 1886, the fistula reopened, and the proposition was made to the patient to expose the site of the fæcal sinus from within by laparotomy, and to deal with it by extirpation of the appendix or enterorrhaphy. He declined to take the risk, and preferred to wear a tube permanently. Sparse quantities of a feculent, orange-colored serum continued to escape from time to time until the end of 1888, when the tube could not be replaced once, and was abandoned. As it seems, permanent healing then took place.

The proposition made to this patient to close his fæcal fistula by laparotomy and an appropriate dealing with the involved gut, contains the essence of a plan the adoption of which might be necessary in order to bring about the speedy cure of an apparently interminable, most disagreeable, and loathsome ailment. But the necessity for the adoption of such extreme measures must be very rare indeed.

On the whole, it may be said that the recurrence of an evacuated perityphlitic abscess is comparatively rare, and that, if it is due to the presence of a fæcal fistula, its lasting cure can in most instances be effected by prolonged and efficient drainage of the outer wound.

Another cause of prolonged suppuration within and around an incised perityphlitic abscess is the formation of one or more extraperitoneal burrows and cavities, located between the several layers of the abdominal wall, which are the direct consequence of inadequate measures at drainage. The primary cause of the abscess may be eliminated, the perforative aperture of the appendix or gut may long since have permanently closed, and yet frequent relapses of suppuration will keep the patient confined to the bed. How to deal with a case of this kind may be seen from the following history:

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* I take the liberty of referring to a verbal communication of Dr. F. Lange, who informed me that he once had to abstain from removing the appendix through an anterior incision. Later on the organ was successfully removed through a posterior wound.

Mrs. E. T., aged thirty-two, was operated for perityphlitic abscess by a prominent gynæcologist of this city in the latter part of the summer of 1887. Four weeks after the operation the drainage-tube was withdrawn, and the wound healed promptly, but a reaccumulation and evacuation of pus soon followed, and symptoms of recurrent retention were observed on an average every four or six weeks until January 13, 1889, when, by the same practitioner, bloody dilatation was done with the confident expectation of lasting success. These hopes, however, remained unfulfilled. Up to March 1, 1889, three more recrudescences occurred which were closely observed by the author. Each time symptoms of retention were present, though a large and long drainage-tube was constantly *in situ*, reaching to the bottom of the wound. Circumscribed swellings occurred then once above, another time to the inner side of the sinus, and pus was seen welling up on pressure from the drainage-tube. It was decided to find and remove the cause of this distressing condition by an operation, which was done March 11, 1890, in the presence of Dr. Lange and Dr. Bull, of this city. The tract within which had lain the drainage-tube was exposed to its bottom by an incision nine inches long, and running parallel with Poupart's ligament. Carefully examined, it was found to be soundly and firmly closed at the bottom, no manner of communication existing with the gut, though it was evident that only a thin layer of tissue separated the cavity from the peritoneal sac. On the lateral aspect of the smooth lining of the old drainage track, and not far from the bottom, two minute apertures were seen inosculating, into which the probe passed for a distance of two and four inches, respectively, the longer track leading toward the navel, the shorter upward toward the crest of the ilium. When these narrow tracts were slit up, each of them was found terminating in a small pocket containing granulations and pus. These sinuses were located within the abdominal parietes, between the muscular and peritoneal layers. Unavoidably, the peritoneal cavity was opened in two places, but, as no tumor could be felt within, these apertures were not enlarged. The very large wound was purposely left open, and the dressing consisted in an iodoform-gauze packing. Uninterrupted healing followed, though it took a long time on account of the size of the wound.

June 3d.—The patient was discharged cured, and has remained well ever since then.

Conclusions.—1. Mild, presumably catarrhal, forms of appendicitis require no operative measures, but dietetic and medicinal treatment by opiates, laxatives, rest, and local applications.

2. The more severe and persistent forms of appendicitis may render excision of the appendix advisable, especially if frequent recurrence, with increase of the violence of the symptoms, is observed.

3. Most perityphlitic abscesses hold close relations with one or another of the abdominal parietes. The location of the parietal adhesions of the abscess is to be first ascertained, if necessary, by exploratory laparotomy, and the abscess is to be then incised and drained through the area of adhesion, thus avoiding infection of the sound peritonæum.

4. Perityphlitic abscesses that possess no parietal adhesions and have a mesocœliac situation between free coils of intestine must be reached by laparotomy through the uninvolved peritoneal cavity. Precautions have to be taken not to infect the normal peritonæum.

5. Recurrence of suppuration in the groin, following spontaneous or artificial evacuation of a perityphlitic abscess, may be due either to the persistence of a small fæcal fistula, or to the presence of secondary intraparietal sinuses caused by inadequate drainage and retention.

In the first case prolonged and efficient drainage is to be employed for a long time before resorting to artificial closure of the fæcal fistula by laparotomy and enterorrhaphy or otherwise.

In the second case all sinuses and pockets have to be found by free and careful dissection, and, when they have been slit up and scraped, the wound is to be treated by the open method to effect a sound cure.

ERYSIPELAS

TREATED WITH THE BICHLORIDE OF MERCURY,

AND THE RESULT IN FOUR CASES.

By W. SHROPSHIRE, M. D.,
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Not having seen any mention of the treatment of erysipelas by the local application of the bichloride of mercury, I desire to give the results of my efforts with the remedy, and hear the opinions of others with a more extended practice than my own, when they have tried it to their own satisfaction. The following report will show the method of application and results obtained:

Case I. *March 23, 1889.*—I was called to see Minnie R., aged one year, who, two weeks prior to that date, had received a scald on the right leg, which healed cleverly till a week subsequent, when erysipelas set in and spread rapidly up the leg and over the thigh, etc. The family physician was called in and prescribed a four- or five-per-cent. aqueous solution of carbolic acid to be continuously applied to the inflamed area, which was done till I saw her, when I found the child suffering from carbolic-acid poisoning, and the erysipelas having spread over the whole of the thigh, half the nates, and a portion of the abdomen, and was rapidly spreading. It was of the variety which has a vesicular eruption over the inflamed area. Her temperature was 102·8°, pulse 170, weak and thread-like. I prescribed quin. sulph., gr. ¾; tinc. ferri. chlor., ♏ij, every three hours, and the application of a saturated solution of ferri sulph. locally by keeping a cloth wet with the solution and applied to the inflamed area.

24th.—Temperature, 102·4°; pulse, 160 and fair; symptoms of carbolic-acid poisoning gone; inflammation rapidly spreading and looking quite angry, and she was quite restless through the night. The iron and quinine internally were continued, and the local application was changed to hydrargyri chlo. corros., ammon. chlo., āā gr. vijss., dissolved in one quart of water, applied by keeping a cloth wet with the solution and applied to the inflamed surface, especially the spreading edges.

25th.—Temperature, 101°; pulse, 140. Rested some during the night; ate some. Inflammation spreading only in the inguinal region, where the application was imperfect, and subsiding elsewhere. Treatment continued.

26th.—Temperature normal; inflammation subsiding rapidly; no spread since last visit. Treatment was discontinued on the 27th, and tonic of ferri. sulph., quin. sulph., āā gr. ¾; acid citric, gr. jss., ter die, substituted. Four days later I saw the child in the yard playing with others, apparently perfectly well.

Case II. *July 9th.*—Was called to see John G., aged thirteen years. The day before he had noticed an inflammation on the posterior aspect of the shoulder at the margin of the axilla and soon became feverish, both spots growing rapidly worse. I found him with a temperature of 104·8°, as I supposed, partially due to malarial complication, and an area of about fourteen or sixteen square inches of erysipelatous inflammation in the situation mentioned, belonging to the same type as No. 1, that characterized by a vesicular eruption. I prescribed quin. sul., gr. v, every four hours, and the topical application of a 1-to-2,000 solution of the bichloride of mercury as applied in Case I.

10th.—Temperature, 105°; pulse, 134. Area of inflammation greatly increased, and a new place on the elbow of the same side. I ordered acetanilide, gr. iv, not to be repeated; continued the quinine in five-grain doses, and changed the bichloride solution from 1 to 2,000 to 1 to 1,000 and applied as before.

11th.—Temperature, 101·4°; patient bathed in perspiration and the inflammation not spreading but subsiding. Treatment was continued.

12th.—Temperature, 99°. Inflammation greatly diminished. Treatment was discontinued on the 13th, and a tonic of iron, quinine, and strychnine was ordered for a week, before which time the boy came to my office apparently quite well.

Case III.—Mr. K., about twenty-two years old, called at my office showing about half of his forearm covered with erysipelatous inflammation of the non-vesicular variety, which had begun the day before at a tick bite near the wrist. I prescribed the bichloride of mercury, gr. viij to one pint of water, to be applied as in the former cases. On the following morning he complained of considerable pain from the application of the solution—so much so that he could not sleep the night previous, but there was no spread of inflammation. I ordered morph. sulph., gr. vij to the pint of solution, to be applied as before. Two days later he showed me his arm, and where the inflammation had existed there were quite a number of pustules very much like those caused by the local application of ol. tiglii. I ordered it rubbed with carbolized vaseline, and heard nothing more of the case.

Case IV.—Mr. M., aged about thirty-five, called at my office and showed an area of eighteen or twenty square inches of erysipelatous inflammation on his right forearm, with red lines running from the inflamed area toward the body. It was of the non-vesicular variety. I prescribed the bichloride-of-mercury (1 to 1,000) aqueous solution, to be applied locally, as in other cases. Six hours later I was called to see him, when he complained that the medicine burned too severely to be borne, and I ordered a solution of sulphate of morphine, seven grains to the pint, and heard nothing more of the case till three days later, when he showed me his arm, then apparently perfectly healthy.

Cases III and IV are reported from memory, but Cases I and II are taken directly from my case register. I treated two other cases with the same remedy, but one was never seen after it was prescribed for; and the other was so complicated by other diseases that it is unworthy of being reported.

Aside from the clinical evidence of these cases, we have certain well-established facts, and good reason for the treatment of erysipelas with the topical application of the bichloride of mercury. That erysipelas is an inflammation of the skin, and the work of a specific micro-organism, is generally acknowledged; and that the bichloride of mercury is one of the most powerful germicides is equally as generally conceded. With these facts in view, the rational treatment of the disease is to apply the remedy to the cause; so the question is how to apply it in sufficient quantity to kill the micro-organisms and not hurt the patient or endanger his life; and I think it is fairly solved by the cases reported.

It may be advisable to remove the sebum off the skin with soap and water before applying the solution of bichloride; but, in the majority of cases, the corrosive nature of the drug is, I think, sufficient to remove the sebum without the use of any adjuvant. In addition to the benefit of the bichloride, in the above-given plan of treatment, the continued application of cold water to the heated and inflamed surface relieves the suffering and checks the inflammatory process. I hope others will try the treatment and report the result of the same, for if the remedy proves as efficient in all cases as it seems to have done in those here reported, it certainly is to be preferred to the necessarily very painful and somewhat dangerous treatment by hypodermic injections of an aqueous solution of carbolic acid, from the fact that it is both less dangerous and painful, and, when compared with other treatments, its efficacy places it first. I will suggest a strength of 1 to 2,000 for young children and 1 to 1,500 for adults as probably the best to use.

THE STANDARDIZATION OF GALENICAL PREPARATIONS.*

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The question of the uniformity and reliability of the medicinal preparations employed in the treatment of disease is one of considerable importance to physicians and their patients. So far as it is practicable, it is certainly desirable that tinctures, fluid extracts, and the like, should represent a definite strength not merely of the crude drug, but of those constituents of the drug upon which its therapeutic and toxic activities depend. We have all experienced the embarrassment which attends the use of a preparation of unknown power, for, on the one hand, our dose may be too small to accomplish the desired result, and, on the other hand, it may be so large as to be dangerous. So long as the Pharmacopœia of the United States fails to prescribe a uniform and exact standard for such drugs as opium, belladonna, aconite, nux vomica, conium, and others which might be mentioned, this danger and uncertainty must remain. In the case of a drug like opium, in which the pharmacist is allowed to use his discretion as to whether it shall represent twelve per cent., or anything between that and sixteen per cent. of its most powerful alkaloid—a range of variation of twenty-five per cent. if we take the highest figure, and of thirty-three per cent. if we take the lowest figure—it is obvious that the physician is unable to prescribe an accurate dose, and must perform a series of tentative experiments with each new preparation that is ordered. Not only will there be a different therapeutic and toxic value to the preparations obtained from different druggists, but unless each druggist adopts for himself a definite standard, be that the highest or the lowest required by the Pharmacopœia, preparations obtained from the same druggist at different times will likewise vary.

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* We greatly regret that our engagements prevented the publication of this article before the time of meeting of the Pharmacopœial Convention. Doubtless, however, the Committee of Revision may yet be able to give due consideration to its arguments, and certainly the medical profession must feel interested in them at all times.—Editor.

It would seem, then, the obvious duty of the Pharmacopœial Convention to adopt one definite morphine strength for opium preparations, and for physicians to demand of druggists absolute conformity with the pharmacopœial requirements. But as regards opium we are much more fortunate than with other drugs possessing equally dangerous properties, if given in excessive doses. With opium, at least, we can guess within thirty-three per cent. of its strength, but with belladonna, to take but one example out of many, we can not guess even that.

In a paper recently read before the Philadelphia County Medical Society, Dr. H. H. Rusby states that the percentage of total alkaloids in belladonna leaves may vary as much as two hundred and fifty per cent., and that the physical properties of the drug give no indication of its alkaloidal value, some of the worst-appearing leaves giving the best assay.

Now it is true that the physician who desires to produce an atropine effect can attain his object most readily and satisfactorily by administering a salt of the alkaloid; but atropine does not represent belladonna. There are cases of daily occurrence in which we desire to administer the galenical preparation and not the alkaloid. It is in these cases that the constant uncertainty concerning the activity of the preparation employed leads to the double danger of failing to secure the effect desired if we use a small dose, and of poisoning our patient if we use a large one, with the preparation unexpectedly more active. It is reasonable to suppose that whatever constituents of the drug give it its therapeutic powers will be found associated in about the same proportion, and that the total alkaloidal strength will represent the total therapeutic value. It certainly will represent the total toxic activity. It is further evident that what the physician is concerned with is, not the quantity of crude drug to be used by the pharmacist, but the strength of the finished product which he prescribes. That, with one lot of leaves, one fourth of the quantity of crude drug prescribed by the Pharmacopœia will produce a fluid extract or tincture of sufficient therapeutic activity, or that, in another case, four times the pharmacopœial quantity will be required, is a matter of absolutely no consequence to physicians. What they have a right to demand of the Pharmacopœial Convention and of the intelligent pharmacists who will assist in its deliberations, is to lay down a broad principle that in every possible case the preparations to be prescribed by physicians and taken by patients shall have a uniform and definite strength; and it will then become the duty of the Committee on Revision, with the aid of its experts, to ascertain the best method of putting this principle into practical application. But it must be distinctly understood that the standard applies to the finished official preparation, for this is what the physician prescribes. Of what advantage is it to know that tincture of nux vomica represents so many parts in a hundred of a drug whose alkaloidal strength has a range of variation of fifty per cent? And as this variation is incurable, it is obvious that parts in a hundred must be varied in an inverse ratio to produce a preparation of standard strength. The fact that a certain firm of manufacturing chemists—it may be with far-sighted business instinct, it may be with a professional pride and honor which should not be unexpected from those having such intimate relations with the medical profession—has, without waiting for the Pharmacopœial Convention, instituted for itself a series of elaborate and expensive experiments, and put upon the market preparations of guaranteed strength, such as the Pharmacopœia should require from all manufacturing houses and from all retail pharmacists; this fact—humiliating as it is to scientific men, who should not have allowed manufacturers to take the lead in so important a reform—should certainly not act prejudicially to the adoption of the principle contended for. On the contrary, the writer, who has a very wholesome aversion to indorsement of any kind of patented or trade-marked preparations or appliances, would feel that he was doing an injustice to the enterprise and scientific spirit of Messrs. Parke, Davis, & Company, if he did not mention that house with due credit and praise, and express the satisfaction which he has derived from the use of their standard preparations in contradistinction to the disappointment which has often attended his use of the uncertain preparations of the Pharmacopœia. As a matter of course, since the point has been raised, the name which this house has applied to its line of assayed preparations should not be admitted into the Pharmacopœia any more than such names as "antipyrine," "antifebrin," "salol," and the like; though there is this difference to be observed to the credit of our American manufacturers: that their names are not trade-marked, while those of the German houses, whose preparations are so extensively sold in this country, are, under the laws of the United States, which afford permanent protection to trade-marks, equivalent to a perpetual patent right.

The principle advocated by those who desire to have uniform standards of strength of pharmacopœial preparations is so obviously correct that it is hard to avoid repetition and superfluous iteration in its presentation; the mere statement of it should suffice, without argument.

The time is near at hand for the assembling of the Pharmacopœial Convention, and it is the duty of physicians to consider the subject very carefully and to express their views publicly, in order that a due weight of professional opinion may be brought to bear upon the deliberations of the convention; to secure the removal of the conditions of uncertainty which are not only a discredit to the two learned professions of medicine and pharmacy, but, in addition, always a disadvantage, and sometimes a danger to the community at large.

Correspondence.

LETTER FROM LONDON.

Hospital Administration Inquiry.—The Scheme for a New University for London.—The British Medical Association Meeting at Birmingham.—Public Exhibitions of Hypnotism.

LONDON, *June 2, 1890.*

A SELECT committee of the House of Lords is at present engaged in inquiring into the mode of administration and management of the leading hospitals of London. One of the chief ostensible reasons for the appointment of the committee was the alleged abuse of the out-patient departments by the public, and there can be no doubt that there has been for some time a good deal of outcry in the ranks of the profession on this subject. That the hospitals may be and occasionally are abused there can be but little doubt, but I am inclined to think, from a not inconsiderable experience, that there is a great deal of exaggeration on the subject; what is really wanted is some reform in regard to the way that letters of recommendation are given by the subscribers to the hospitals, as most of the "ineligibles" are attending with subscribers' letters. If, as the outcome of the present inquiry, subscribers' letters should be altogether abolished, the committee will not have sat in vain. Another matter in which a good result may be expected is in putting a stop to that indiscriminate starting of special hospitals from which we have suffered most heavily and are still suffering. It is really the special hospitals which are the greatest sinners in competing with the general practitioners, for they are often officered by men of no very high standard of professional morality, who would not hesitate to transfer a patient who could afford to pay to their own houses or see him in a private room at the hospital, without giving one moment's thought to the fact that they were deliberately robbing another man of a patient. If there is a danger that the inquiry may imperil the material at present at the disposal of the general hospitals for clinical purposes (and no doubt this danger exists) there is, on the other hand, the possibility that it may be the means of opening up to us the immense resources of our workhouse infirmaries for that purpose—a thing which many of us have been longing for for a considerable period and which now seems to be coming within the domain of practical politics. Already we have the fever hospitals made available for clinical purposes in a somewhat restricted sense, and at the present moment the post-graduate course includes a weekly visit to one of the largest of the London workhouse infirmaries.

We are rapidly approaching a settlement of the question which has so long been agitating us—viz., how to provide an attainable degree in medicine for our London students; the existing University of London has been given the chance of remodeling itself so as to enable this to be accomplished, and warned that if it does not do it it will be made to stand on one side while Parliament takes the matter in hand; it can be readily understood, therefore, that the university has aroused itself and is making a very real attempt to provide a solution of the difficulty that will be agreeable to all parties. One of the chief difficulties is that there are two teaching bodies—viz., University College and Kings College—which are equipped for giving instruction in all branches of education, and that they claim a distinct position in the new university, while, as regards their medical faculty, the nine other medical schools strongly object to any privileges being granted to the two bodies named in respect of their medical sections which are not also granted to all alike, and in this they are strongly supported by the Colleges of Physicians and Surgeons; the latter bodies are trying to obtain a joint control of the examinations with the university, and there is evidently much to be said in support of their contention. It is expected that the university will promulgate a scheme in the course of a very few days, and it is certain that the very great desire on the part of all concerned to obtain a settlement of this vexed question will secure for it a most favorable consideration.

Our societies have almost concluded their sessions; the Clinical and Pathological have held their last meeting, and the Royal Medical and Chirurgical will hold its last meeting next week, and, notwithstanding the inconvenience experienced at the commencement of the session by the new premises of the latter society not being ready for occupation, the amount of work performed by the leading societies will not be less than that of past years, though there have not been any great discussions such as those on tubercle bacilli or Charcot's joint disease, only to cite two of the more recent instances; two committees are at work, however, which will no doubt supply material for excellent discussions at future meetings. The Clinical Society has a committee at work on the period of incubation of the various infectious disorders—an inquiry which was really undertaken more than ten years ago, but somehow was allowed to lapse and was practically re-undertaken a little more than a year ago. Dr. Dawson Williams, who is the secretary and the moving spirit in it, has given notice that the report will be ready for presentation at an early meeting of the next session. The other investigation is undertaken by the Royal Medical and Chirurgical Society and is on the health resorts of Great Britain; the leading men on the committee are Dr. Hermann Weber, Dr. Dickinson, Dr. Mitchell Bruce, Dr. Penrose, and Dr. A. E. Garrod, and it is believed that their report will be ready for presentation during the forthcoming session.

Our medical colleagues in Birmingham are making great preparations for the meeting of the British Medical Association, which is to be held there in August under the presidency of Dr. Wade, and the programme which has already been put forth shows that the meeting will not be behind any of its predecessors in scientific interest. There had been some talk of holding the meeting this year in London, where the association has not been received, I think, for nearly twenty years, but the agitation last autumn which terminated in the resignation of some seventy members caused the leaders of the association to go elsewhere, though the actual loss to the association was exceedingly small and has since been further lessened by the return of a considerable number to the fold. I am told that these disputes and secessions are periodical, that the discontented persons always return sooner or later, and that this is a far smaller secession than either of its two predecessors. The number of members of the association is now greater than it has been at any previous time.

A protest is being raised—not before it was wanted—against the spread of hypnotic experiments in public performances. An anonymous writer in a medical journal last week put it very well when he said: "Hypnotism is apt to be a dangerous mental poison, and as such it needs to be fenced round with as many restrictions as the traffic in other kinds of poison. Narcotics of any kind are not to be handled by the ignorant, and are liable to reckless abuse by the feeble in mind or body."

THE
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Edited by Frank P. Foster, M. D.

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SOME UNUSUAL MODES OF INFECTION WITH SYPHILIS.

An examination of the medical literature of the past would show a long list of sources of mediate infection with syphilis; but to this already extensive and varied collection Dr. R. W. Taylor has added a number of novel and striking ones, the details of which he has presented in an interesting paper read at the Fourth Annual Meeting of the American Association of Genito-urinary Surgeons, and published in the June number of the *Journal of Cutaneous and Genito-urinary Diseases.* From this article it appears that the popular and apparently innocent gum-chewing craze may be accompanied by the hidden danger of syphilitic infection. A lady who had become infected with syphilis from a towel which had been secretly used by her maid subsequently had a sore mouth and tongue, and while in this condition she got into the habit of using chewing-gum. On two occasions she had temporarily placed her bolus on some article of furniture, and it had been taken up by mistake and chewed for some time by another lady. This second lady had abraded her lip while brushing her teeth a short time before, and on this wound a typical indurated chancre appeared, accompanied by marked enlargement of the submaxillary and cervical glands. In due time roseola and rheumatoid pains ushered in the secondary period of syphilis. All other possible sources of infection had been very carefully excluded.

In many cases of syphilis it is very difficult to trace the source of infection, even when the patient is truthfully endeavoring to assist the physician in this task; and this difficulty is often owing to the fact that the questions asked do not elicit the desired information. We must sometimes, with tact and prudence, inquire concerning certain unnatural practices, about which some men have no shame, while others are very sensitive. The necessity of this is shown by a case in which an eminent practitioner pronounced a man free from syphilis because he had not been exposed in the usual way for fully two years, and yet, on examining into his history more thoroughly, it was ascertained that, while going home one night slightly under the influence of liquor, he had been accosted by a stranger, who led him into a secluded spot, where he performed upon him one of these unnatural practices. Two weeks later three excoriations appeared on the penis, and later on developed into indurated nodules, and the secondary manifestations of syphilis appeared in due time. Many men seem to consider that indulgence in these unnatural practices does not come under the head of exposure to syphilis, and so they often unintentionally mislead their physician. There is a class of men, chiefly young—although older ones are among their number—who are the victims of sexual perversion, and who grant to and receive from men libidinous favors in revolting and unnatural practices. They patrol dark and unfrequented streets, and prove a constant annoyance to the police after dark by "hanging around" our public parks and haunting the public places of urination, and also the water-closets in hotels. In December, 1888, Dr. Taylor presented to the New York Dermatological Society one of these men, who was suffering from a well-marked chancre of the tonsil and general syphilitic manifestations. He had undoubtedly received his infection from a man who had a hard chancre, and there is no knowing how many men he had infected before his tonsillar chancre caused such pain and uneasiness as to disable him for his favorite pursuit. In any future legislation—if there ever is any—for the prevention of venereal diseases in this country or State, these persons should be prominently remembered. The members of this promising fraternity are well known to the police, who, having as a rule an antipathy to them, keep a sharp eye upon them, causing them to keep moving, and in every possible way interfering with their beastly pursuits.

A much less revolting but still very important mode of syphilitic infection next received the author's attention—viz., by post-mortem examinations on those who have died while the disease was still active. Two very striking cases were related, and they certainly point to the importance of such a mode of infection.

The cases cited were both observed in physicians. In the first one the physician held an autopsy on a person who had died of syphilis maligna and tuberculosis, eight hours after death; and during the examination he broke the end of one finger-nail and tore the flesh. The raw surface healed in five days, but on the fifteenth day after the autopsy redness and a slight fissure developed at this spot, and within two weeks there was an exuberant vegetating chancre, with epitrochlear and axillary adenopathy. In forty-five days general syphilitic manifestations appeared. While he had been attending the patient there had been no lesions which might possibly have conveyed syphilitic infection, and he was sure that he had not been exposed to syphilis in any manner for at least eight weeks prior to the autopsy. In the second case the unfortunate victim was a healthy man, twenty-six years of age, of temperate habits and having a good family history. On November 29, 1887, he made an autopsy, nine hours after death, of a prostitute who had died of cerebral apoplexy. She had scars on her body, which were no doubt syphilitic lesions. At the time there was a small crack just under the third finger-nail, and this he covered with collodion. On December 21st he performed another autopsy, five hours after death, upon a man who had died of acute alcoholism with cirrhosis of the liver and kidneys. He also had a fracture of the jaw with a large and very foul external wound. About three or four days after this second autopsy a fungous growth appeared about the nail on the physician's third finger, and this would not heal, although various methods of treatment were adopted. On January 23, 1888, he took a Turkish bath, and on the following day felt feverish and much depressed. In the evening a rash appeared on the arms and hands. Thinking that he was suffering from septic matter absorbed at the time of the second autopsy, he sought advice, and was greatly surprised to learn that he had been infected with syphilis. All other sources of infection were carefully excluded. He had evidently been infected at the time of the first autopsy, so that fifty-four days elapsed between the infection and the systemic outburst. This length of time would fully cover the two classical periods of incubation observed in the development of syphilis, while the time between the second autopsy and the evidence of infection was far too short for syphilis. It was worthy of note that both these autopsies had been made within a comparatively short period after death; and it is probable that, if infection does occur in this way, it is only when the examination is made soon after death, and before cadaveric changes have taken place, for the latter probably destroy the syphilitic virus.

Dr. Taylor related the histories of cases showing syphilitic infection from a caustic-holder, a handkerchief, a bathing-suit, a syringe, a pair of drawers, a whistle, a tongue-scraper, a razor, a pillow, etc., and called attention to the liability of such infection from water-closets. He thought the profession was far too skeptical in regard to this source, for he had seen many cases of hard chancre the bearers of which had told him that they frequently renewed their dressings and inspected the diseased organ while sitting upon a water-closet seat. Then there were cases of mucous patches and condylomata lata of the scrotum which, unless great care was exercised, must come in contact with the water-closet seat. There was also a method of infection that had not before been described, but which the author had observed in at least a dozen cases. It generally occurred in this way: A man, fearing to contract the venereal disease, or for other reasons, contented himself with digital fondling of the female genitals. In this way his fingers might become soiled with the secretion from syphilitic excoriations, and the virus might be transferred from his fingers to some other part of his body—generally by scratching or picking. In this way chancres might be produced on the tip of the nose, the chin, the cheek, the neck, or arm. It was highly probable that many chancres about the face in men originated in this manner.

The author concludes by pointing out the necessity for greater care on the part of physicians in explaining to their syphilitic patients how they may become disseminators of infection, and the means to be taken to prevent that great disaster to others.

MINOR PARAGRAPHS.

POTASSIUM TELLURATE IN THE NIGHT-SWEATS OF PHTHISIS.

In the *Wiener klinische Wochenschrift* for June 5th Dr. Edmund Neusser relates his experience with potassium tellurate as a remedy for the night-sweats of consumptives. He used it in the form of a pill, giving at first 0·02 gramme (about a third of a grain) at a dose. In most of his cases this proved sufficient, but a few patients began to sweat again after a time, and with them he doubled the dose, generally with good results. In but few instances were any toxic effects observed; even with doses of a grain, it was only after their prolonged use that anything of the kind occurred, and then the symptoms were only those of moderate disturbance of digestion. An objection to the employment of the remedy, however, is the fact that it imparts an intense garlicky odor to the breath, but generally this is not perceived by the patient, although two of the patients complained of a sulphurous or camphoraceous odor of the eructations.

WILLIAM CULLEN AS A STUDENT.

In the last number of the *Asclepiad* the editor, Dr. Benjamin Ward Richardson, gives us an entertaining and instructive article entitled William Cullen, M. D., F. R. S., and the Growth of Physical Medicine, illustrated with two portraits of the great nosologist. In his youth Cullen was an exceedingly studious and discreet person. Speaking of him at the age of twenty, when he was employed in an apothecary's shop, Dr. Richardson says of him: "Let the subject of conversation with him be one on which he has little or no knowledge, he will listen and take no part; but speak to him at some subsequent period on the same subject, and beware, or he will confound you with his information."

THE LADIES' HEALTH PROTECTIVE ASSOCIATION OF NEW YORK.

We have more than once spoken of the good work done by this energetic association, and the appearance of its report for the years 1888 and 1889 reminds us of its wide field of operations and of their value as labor supplementary to that of the sanitary officials. The report deals with gas-houses, slaughter-houses, manure and stable refuse, street-cleaning, school hygiene, the Croton water, women as factory inspectors, police matrons, tenement houses, public sewers, etc.—not in a prolix or tedious way, but with the utmost brevity consistent with the importance of those subjects and with a freedom from querulousness that is very commendable.

THE INTERNATIONAL ATLAS OF RARE SKIN DISEASES.

We have received parts i and ii of this very valuable publication from the American publishers, the J. B. Lippincott Company, of Philadelphia. Reserving them for further mention, we will simply note that the work is edited by Mr. Malcolm Morris, of London; Dr. P. G. Unna, of Hamburg; Dr. H. Leloir, of Lille; and Dr. L. A. Duhring, of Philadelphia; that the text is in the English, French, and German languages; that two parts are to be issued annually; and that the work is to be had in this country only of the Lippincott Company, and only by subscription.

"ORISTRY."

According to the *Boston Medical and Surgical Journal*, Dr. J. L. Williams, of Boston, proposes the adoption of this term to signify the rapidly widening specialty of the dental and oral surgeon. The word is compounded of the initial part of *oral* and the terminal part of *dentistry*.

SPECIAL BERLIN CLINICS FOLLOWING THE CONGRESS.

A correspondent informs us that many of the professors and *Docenten* of the university intend to hold special courses of from three to four weeks' duration immediately on the close of the Tenth International Congress. He adds that strangers will find the various announcements on the bulletin-boards of the Charité Hospital and the University Clinics.

A NOVEL FORM OF MEMORIAL.

A piece of ground for athletics, of twenty-seven acres, on the banks of the Charles River, has been presented to Harvard University by Mr. H. L. Higginson, of Boston. The field will be known as the Soldiers' Field, and will contain a memorial in honor of seven friends of the donor, who died in or as a result of the War of the Rebellion. One of these seven was that rare and true man, Dr. Edward B. Dalton, for many years the Sanitary Superintendent of the New York Board of Health.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 1, 1890:

DISEASES.	Week ending June 24.		Week ending July 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	1	11	5
Scarlet fever	33	4	34	10
Cerebro-spinal meningitis	0	0	1	0
Measles	297	15	276	25
Diphtheria	90	26	84	23
Varicella	12	0	1	0

The Honorary Degree of LL. D. has been conferred by Lafayette College on Dr. Ezra M. Hunt, of Trenton, N. J., and by Yale University on Dr. Francis Delafield, of New York.

Change of Address.—Dr. Thomas Linn, from Paris, France, to No. 16, quai Masséna, Nice.

The Death of Dr. Edward Malone, of Brooklyn, occurred on June 16th. The deceased, who was fifty-two years old, was born in Ireland, but came to this country while yet a lad. He was educated in Paris and New York. In the late war he served with the Eleventh Brigade, New York State Volunteers.

The Death of Dr. Gustavus A. A. Krehbiel took place at his home, in New York, on the 17th of June, when he was forty-nine years old. He was a native of Bavaria, a graduate of the University of Munich, and for a time a practitioner in Vienna. He came to this country about fifteen years ago, and took a high position as a physician.

The Death of Dr. Willis F. Westmoreland, of Milledgeville, Ga., is announced as having taken place on Friday, June 27th, at the age of fifty-two. The deceased was one of the founders of the *Atlanta Medical and Surgical Journal*, and for many years a member of the faculty of the Atlanta Medical College. During the late civil war he served on the medical corps of the Confederate Army.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 28, 1890:*

Page, John E., Berryville, Va.; Kennedy, Robert M., Pottsville, Pa.; Whitfield, James M., Richmond, Va.; Stone, Lewis H., Litchfield, Conn., commissioned assistant surgeons in the Navy.

Atlee, Louis W., Assistant Surgeon. Detached from the U. S. Steamer Marion, and granted three months' leave.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending June 21, 1890:*

Gassaway, J. M., Surgeon. When relieved at Cairo, Ill., to proceed to New Orleans, La., and assume command of the Service at that station. June 4, 1890.

Stoner, G. W., Surgeon. Granted leave of absence for three days. June 18, 1890.

Wasdin, Eugene, Passed Assistant Surgeon. Granted leave of absence for fourteen days. June 5 and 10, 1890.

White, J. H., Passed Assistant Surgeon. To proceed to Savannah, Ga., on special duty. June 9, 1890.

Heath, F. C., Assistant Surgeon. Granted leave of absence for fifty-eight days. June 10, 1890.

Magruder, G. M., Assistant Surgeon. Granted leave of absence for twenty days. June 2, 1890. Ordered to examination for promotion. June 5, 1890.

Woodward, R. M., Assistant Surgeon. Relieved from duty at Chicago, Ill., to assume command of Service at Cairo, Ill. June 4, 1890.

Condict, A. W., Assistant Surgeon. Upon expiration of leave of absence, to report to medical officer in command at Chicago, Ill., for duty. June 4, 1890.

Resignation.

Heath, F. C., Assistant Surgeon. Resignation accepted by the President, to take effect August 31, 1890. June 10, 1890.

Society Meetings for the Coming Week:

Tuesday, *July 8th:* Medical Societies of the Counties of Chautauqua (annual), Clinton (semi-annual—Plattsburg), Greene (quarterly), Jefferson (semi-annual—Watertown), Madison (annual), Oneida (annual—Utica), Ontario (annual—Canandaigua), Schuyler (semi-annual), Tioga (semi-annual—Owego), and Wayne (annual), N. Y.; Norfolk, Mass., District Medical Society (Hyde Park).

Wednesday, *July 9th:* Tri-States Medical Association (Port Jervis, N. Y.); Franklin, Mass. (quarterly—Greenfield), Hampshire, Mass. (quarterly—Northampton), and Worcester, Mass. (Worcester), District Medical Societies.

Thursday, *July 10th:* Medical Society of the County of Fulton (semi-annual), N. Y.

Saturday, *July 12th:* Worcester, Mass., North District Medical Society.

Letters to the Editor.

NITROGLYCERIN IN GAS POISONING.

1519 John Street, Baltimore, *June 24, 1890.*

To the Editor of the New York Medical Journal:

Sir: I have just successfully treated another case, the patient being almost moribund, of poisoning by illuminating gas with the subcutaneous injection of nitroglycerin, $\frac{1}{50}$. The symptoms were not quite so threatening as in the case I described in your issue of October 26, 1889, yet sufficiently so to be alarming, and the result was fully as prompt and happy as in the former case.

I have observed the report of three other successful cases by this treatment, which is surely sufficient to attract the attention of medical men likely to meet with such cases, and to induce them to give it a trial.

The suggestion, made by Dr. F. X. Dooley, of Washington, D. C., in your issue of February 8, 1890, that this treatment should be embodied in our visiting lists, is an excellent one, and should be acted on.

In my paper of October 26, 1889, I stated that the idea was original with me and that, to my knowledge, the remedy had not been used previously for the treatment of such cases. Since the publication of my paper Dr. Crossland, of Zanesville, Ohio, has published a paper in which he states he made use of the same treatment some months before I did. I do not wish to detract in the slightest from Dr. Crossland's merit, but I do say that the idea was entirely original with me and that I promptly published my success for the benefit of my brother practitioners, thereby eliciting Dr. Crossland's case, which otherwise would in all probability never have been given to the profession. William C. Kloman, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 1, 1890.

The President, Dr. Alfred L. Loomis, in the Chair.

This meeting was devoted to the discussion of the Relation of Peripheral Irritations to Disease, continuing the consideration of the subject adjourned from the stated meeting of March 20th.

The Relation of Diseased Conditions in the Upper Air Passages to So-called Nasal Reflexes.—This was the title of a paper by Dr. F. H. Bosworth. He did not agree with an ancient writer who had believed that all diseases came from the nasal passages, neither did he believe that the nose was absolutely the direct cause of a large number of diseases which were now recorded in the category of nasal reflexes. Furthermore, he thought it was still an open question whether these diseases, when met with in connection with intranasal disorders, should properly be classed as reflexes. It was certain that many of the affections termed reflex must be regarded as directly symptomatic. As to the question of hay fever and asthma, he did not believe that intranasal disease was the cause of every case of these two diseases. The position taken by the speaker on this question, briefly stated, was as follows: First, that the special morbid lesion which gave rise to a paroxysm of perennial asthma was a dilatation of the blood-vessels which circulated in the mucous membrane lining the bronchial tubes, the result of vaso-motor paresis. This vaso-motor paresis differed from inflammation in that, while constituting apparently its first stage, it showed no tendency to go farther. Muscular spasm, therefore, according to the old teaching, played no part whatever in producing an asthmatic attack. Again, there were two predisposing causes of asthma: First, that condition of the general system which we called neurosis, under the influence of which an individual became liable to vaso-motor disturbances in one portion of the body or another. This the speaker regarded as a good definition, from a pathological point of view, of what was called neurosis. So far as clinical observation taught, the one pathological lesion which characterized the direct manifestation of a neurosis was a vaso-motor paresis in one portion of the body or another. In asthmatics this vaso motor paresis involved the blood-vessels which circulated in the mucous membrane of the bronchial tubes. The second predisposing cause of asthma was a chronic inflammatory process involving some portion of the upper air-tract. In chronic inflammation the prominent feature was vascular dilatation. The whole mucous membrane of the upper air-tract was very closely and intimately related. A hyperæmia of the blood-vessels of the nose showed a marked tendency to be followed by a similar condition of the mucous membrane of the bronchial tubes. This was necessarily a corollary of what was now recognized as the great respiratory function of the nasal passages, by which the temperature and moisture of the inspired air were nicely regulated and adjusted before its entrance into the bronchial tubes. Asthma, as before remarked, was not in all cases caused by an intranasal condition, but an intranasal morbid condition played an exceedingly important part in its development. In the author's original paper—Asthma, with an Analysis of Eighty Cases—forty six were reported as cured and twenty-six improved, the treatment being largely intranasal. Now, if out of eighty cases forty-six could be cured and twenty-six improved by the local treatment of the nose, there could be no question that we had established the fact that a very large majority of cases, if not all, were dependent upon an intranasal lesion, and by this dependence he did not mean cause, but that the two affections were so closely related that the asthma could be very materially affected and controlled by medication to the nose. As regarded hay fever, this was considered as practically one and the same disease with asthma, and was to be treated in the same way. In regard to certain nervous diseases, such as epilepsy, he had seen nothing in his own practice which warranted the belief that that disease should be looked upon as a nasal reflex. He believed that an intranasal condition was capable of proving a marked source of irritation in any of the nervous affections, the removal of which would modify the symptoms, but that epilepsy had ever been cured by intranasal treatment was, he thought, open to very serious question. Of chorea, he had only known of three cases which had been sufficiently long under treatment to warrant the statement that they had been permanently relieved by intranasal treatment. He did not want to be understood as saying that there was any connection, reflex or otherwise, between chorea and disease of the upper air passages. The good results in these cases could be explained by the fact that the removal of the morbid conditions in the air passages of young patients was often followed by marked improvement in the general health.

Reflex Chorea.—Dr. A. Jacobi, in the course of his remarks on the relation of this trouble to peripheral irritations, thought that quite a large number of cases of chorea minor were due to cerebral lesions, and had more or less pronounced forms of epilepsy complicating them. Other cases might result from apoplexy, tumors, cysts of the brain, diseased cerebral arteries, inflammatory conditions of the spinal cord, sclerosis, embolisms, and so on. Then blood diseases—such as rheumatism, anæmia, nerve inflammations, disorders of digestion or the sexual apparatus, fissures of the anus, or cicatricial contractions—might be looked upon as entering into the causation of chorea minor. It was possible that cases following pericarditis were brought about through reflex action. Others might be due to nasal irritation. Many children developed a train of slight symptoms which were put down simply as bad habits and for which they got punished until the persistency and aggravation of the symptoms led to a proper diagnosis. Some of these patients would be found to be suffering from a nasal catarrh. Many of these got better in warm weather and worse in winter. Looking carefully at such children, it would be seen that there existed a number of symptoms common to each case, such as nasal catarrh with thickening of the mucous membrane and a discharge. The glands around the neck were swollen, particularly those near the angle of the jaw. One or both nostrils would be found impervious, and some ozæna might be noticeable. There was generally more or less pharyngeal catarrh, with reddened mucous membrane, the hypertrophied tonsils showing a number of follicular cavities, interspersed with small white dots formed by the dried-up exudation of muco-pus. These symptoms were pretty constant in what he would term local chorea. He had seen many cases in which the head and shoulders would be thrown about in choreic spasms and in which the condition resulted directly from irritation of the nose or trigeminal nerve. Many of these cases were very unyielding except a correct diagnosis was made. Medicinal treatment did not avail, and no headway was made toward a cure unless the nasal irritation was removed. The convulsive processes usually began in the right hand, extended to the left, and then all over the body. He was in the habit of treating his cases mildly. The actual cautery might be used, but many patients got well if the parts were kept clean. A weak salt water wash with a small portion of alum, used every day, would do better than more vigorous treatment. In a number of cases he had begun by resection of the tonsils, and where hypertrophy existed a cure could not be effected unless this was done.

The Relation of Peripheral Irritation to Diseases of the Womb and its Appendages.—Dr. Charles C. Lee read a paper with this title. He said that in no part of the body was the relation of existing disease and peripheral irritation more frequent and complex than in the womb and its appendages, hence he had found the subject delegated to him no easy task. This condition naturally resulted from the greater sensitiveness of the nervous system of women than that of men, and the extreme potency of the uterus as a factor in the production of reflex irritation in other organs. The speaker called attention to a few of the well-marked neuroses, or, if the term was preferable, the hystero-neuroses, which he thought would best illustrate the subject. Omitting chorea, of which many cases were recorded as intimately dependent upon uterine and ovarian disease, the speaker said that the most frequent illustrations of peripheral irritation resulting from intrapelvic disease in women were (*a*) disturbances of surface temperature; (*b*) neuralgias, such as spinal irritation, spinal ache, sciatica, and migraine; (*c*) special forms of headache, such as pressure on the vertex while the rest of the head was unaffected; (*d*) neuroses of the gastro-intestinal canal, including the familiar example of the persistent vomiting of early pregnancy; (*e*) neurotic conditions of the breast, sometimes of the most aggravated character; (*f*) genito-reflex irritation of the respiratory tract, producing not only occasional dyspnœa, but unmistakable attacks of asthma; (*g*) hysterical affections of the joints and of the organs of special sense. The speaker did not attempt any minute subdivision or illustration of these general groups, but adverted to only two points of practical importance: First, it was futile to treat these evidences of peripheral irritation as diseases. Like all neuroses, they were symptomatic only of some more deeply seated disease elsewhere, and only by combining the appropriate local treatment of that with improvement of the patient's general health could we hope to achieve success. Secondly, it was a striking clinical fact that mal-conditions of the uterus exercised far more influence in these directions than disease of the tubes or ovaries. Undoubtedly we often found an oophoritis, or the evidence of cystic or sclerotic degeneration of the ovaries, in these cases. And in like association we also found the various forms of salpingitis. But however thoroughly these were treated, the neurotic complication would almost surely persist until the accompanying disease of the womb had disappeared. Whatever diseased condition of the uterus existed, this would have to be remedied before the patient could be cured. As had been previously stated, in neurotic conditions ablation of the uterine appendages was not only commonly useless, but often left the patient worse than she was before. That the appendages should be removed if intractable disease of their structure was unquestionable, to assume any other ground would be absurd. But, short of those conditions, they should be left where nature placed them, and, even when removed, in the treatment of such conditions as were now under consideration the accompanying uterine disease must receive the most anxious care.

The Relation of Peripheral Irritation to Disease, considered from a Therapeutic Standpoint.—Dr. Simon Baruch read a paper on this subject. He thought the most important element in the discussion of the above question was the influence of its decision upon our therapeutic procedures. Whether peripheral irritations were ætiological factors by reason of sympathetic effect, as was formerly taught, or, as a more refined pathology and more scientific inquiry into pathological processes claimed to have been ascertained, it was due to reflex agencies, acting through the spinal cord, the chief aim of therapeutic endeavor must be at the point of irritation. He considered it just as important to adopt local treatment, whether the peripheral irritation produced symptoms through mechanical or reflex channels, but that it was always well to distinguish those conditions. The speaker related the history of a cure of true epilepsy, which verified the foregoing statement in regard to treatment: A. K., aged sixteen, a robust boy, had been suffering from distinct attacks of *grand mal* since the summer of 1884. The exhibition of bromides had resulted in the absence of attacks for over a year, but finally they returned with greater frequency despite the increased quantities of bromide administered. It had occurred to the speaker that an enchondroma on the left side of the anterior portion of the septum, which filled the entire fossa in front, projecting the ala far beyond its normal line, might be a peripheral irritant bearing ætiological relation to the epilepsy. After failure with the galvano-cautery, the growth was removed with a Bosworth saw. The bromides were continued until September, 1889, the patient not having had an attack since a week after the operation, which was in April of 1886. The bromides had been discontinued for the past seven months with no return of the attacks; this immunity for over four years could most probably be regarded as recovery from the disease. Similar cases were on record in recent literature. A disease like epilepsy, in the presence of which one stood almost helpless, demanded the most careful search for possible ætiological factors. If irritation of the probe in the nose produced the paroxysm of migraine, asthma, or neuralgia, we had evidence that could be obtained in no other organ, and, in addition, if we succeeded in removing attacks, either artificially or spontaneously produced, by complete cocaine anæsthesia of the sensitive areas, the ætiological connections were demonstrated beyond a doubt and the line of treatment clearly mapped out. It therefore became a duty to search for abnormal conditions in all those functional nervous disturbances which had been reported as possibly connected with nasal irritation. In other organs the difficulty of discovering points of irritation was not so marked, because interference with their function became more or less burdensome and called for remedy in a large proportion of cases. The eye, for instance, did not brook infringement upon its normal condition without protest—a protest which might or might not be heeded according to the intelligence of the patient and his capacity for resisting encroachments upon normal functions. The speaker himself had been cured of weekly attacks of migraine by having his error of refraction, unequal myopic astigmatism, corrected. If we did not succeed in relieving patients of the functional nervous diseases for which the ophthalmic examination was advised, we at least might be content that no damage had been inflicted by the correction of any error of refraction that might have caused distress from eye strain. From a therapeutic standpoint the eye, as a source of peripheral irritation, demanded as careful and painstaking investigation as did the nose. Fortunately, we had in these organs means of ascertaining positively the existence of points of peripheral irritation and of remedying them harmlessly. The existence of peripheral irritation in the utero-ovarian system had long been a vexed question. While the speaker was convinced that a lacerated cervix was frequently an ætiological factor of pronounced type, and while he advised removal of the local pathological conditions connected with the latter as a *sine qua non* to the improvement of the health of many suffering women, he was also convinced that these lesions rarely, if ever, gave rise to the functional nervous troubles that had been attributed to them. The latter might almost invariably be traced to conditions of general ill-health and anæmia, resulting from the local processes, which gave rise to muco-purulent discharges, to infection from raw surfaces on the cervix, and to interference by pain with comfortable locomotion, rather than to the pressure of cicatricial plugs. The speaker had searched the literature on the subject industriously for the clinical proof that the removal of the uterine appendages had been instrumental in relieving pronounced functional nervous diseases, and he was convinced that the ablation of diseased ovaries and tubes did contribute to the improvement of health in a certain proportion of cases. But he could not bring himself to the belief that the removal of those organs not presenting palpable and well-defined pathological changes was ever called for. Serious psychoses might be traced to peripheral irritation resulting from wounds of the head, some of which had been cured by excision of the scars. The relation of peripheral irritation existing in the gastro-intestinal tract to diseases elsewhere was well known. The speaker summed up his views on the therapeutic relation of peripheral irritation to disease as follows: First, that the existence of peripheral irritation as an ætiological factor was well established. Secondly, that there need be no conjecture in the search for such causes of functional nervous diseases in many cases, because we had means in at least the more recently discovered sources, the eye and nose, of detecting and testing their existence. Thirdly, all harmless methods of treatment should be exhausted before mutilating procedures were adopted. Fourthly, that whenever there was a doubt, the local condition should receive the benefit of that doubt, and treatment should be directed to the improvement of the general health.

Dr. Jacobi said that, while he had emphasized his belief that there could exist cases of very intense chorea minor due to nasal reflexes, it was of course important to be very careful in making the diagnosis. There was nothing easier than to be mistaken in serious cases. They were imbued with the notion that reflex irritation meant a great deal. He had his grave doubts as to the influence of peripheral irritation in producing any central disease. It had been customary with many of them —and they had been led, too, by illustrious men—to believe that there was a great deal of sexual irritation in phimosis, and that to this condition might be traced many cases of paralysis in infants and older children. He had never seen such a case. He had given the subject generally nearly twenty-one years of attention, and he was now sure that he never should see such a case. They had heard of brain disease following or being produced by genital irritation. If a patient suffered from toothache or some severe peripheral neuralgia, such symptoms might be really the local or reflex irritation marking the commencement of some central disease which, when it made its appearance, was often considered the cause of the neuralgic manifestations.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PÆDIATRICS.

Meeting of April 10, 1890.

Dr. L. Emmett Holt in the Chair.

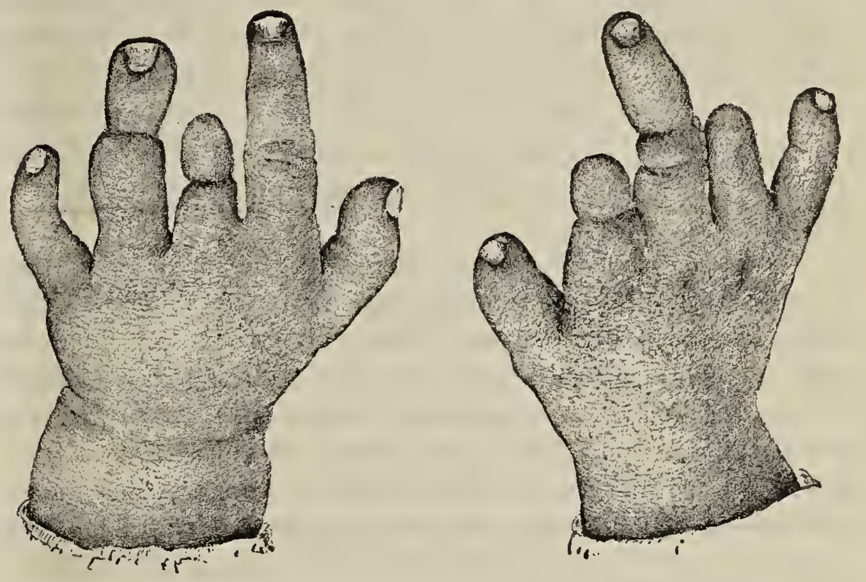
A Case of Cerebro-spinal Meningitis.—Dr. J. Lewis Smith presented an infant whose symptoms he described in detail and from which he had inferred that it had suffered from cerebrospinal meningitis.

Dr. A. Jacobi thought that the case had been one rather of some form of common meningitis. He also thought that there existed considerable of the rhachitic element in the baby. There were some spots over the occipital bone which were still soft. There was a very perceptible pulse over the large fontanels which negatived the idea of existing inflammatory fluid. He should be disposed to place such a patient on antirrhachitic treatment, give more animal diet, and certainly give phosphorus, say $\frac{1}{150}$ grain three times a day. Under such treatment he should expect to see a decided improvement in the child within four or six weeks.

Mulberry Stone in a Young Child; No Symptoms.—Dr. Hanoe presented a calculus which he had removed from a girl twenty months of age who had died from pulmonary tuberculosis and whooping-cough. During life the presence of the stone had not been indicated by any symptoms, and was only found accidentally in making post-mortem section. It was a question whether the accretion was congenital. There were no signs of pyelitis.

Dr. A. Jacobi said the stone was of the mulberry variety and consisted of oxalate of lime. It was somewhat rare.

Congenital Malformation of the Fingers.—Dr. Walter L. Carr narrated the history and presented photographs of a case of congenital deformity of the fingers of both hands in a girl of two years of age. The mother had stated that the child was born with the membranes wrapped around the hands, and that when cut away the fingers were found to be marked. The deformed fingers were peculiar in the numbers of annular constrictions. The index and third fingers of the left hand and the middle finger of the right hand showed this marking. On the right hand the index and third fingers were only the stumps of the intra-uterine amputations. The middle finger of the left hand was deformed in the same way and constricted near its extremity. The thumbs and little fingers were not malformed.



The child was very active and ran around, taking hold of everything in the room. Her grasp was firm and the condition of her hands did not interfere with her play. Later in life the deformity might prevent her from doing such work as sewing, though with training she might overcome the difficulty of holding the needle. If she used her left hand she might have no trouble at all, as the index finger was strong.

Empyema complicated with Pulmonary Œdema.—Dr. F. Huber read a paper with this title. (To be published.)

Impacted Urethral Calculus in a Boy of Three Years of Age.—A paper with this title was read by Dr. F. M. Crandall. (To be published.)

Two Fatal Cases of Acute Primary Pneumonia in Infants, without Fever.—The Chairman read a paper with this title. (To be published.)

Dr. A. Jacobi asked to what cause the chairman attributed the low temperature.

The Chairman replied: In the first case, to the intensity of the process, associated, as it was, with the gangrenous condition in the lung. As to the cause in the second case, he had no explanations to offer. It had struck him as interesting to see two children die of pneumonia within a week of each other with none of the ordinary symptoms of the disease. Might not these cases have been of long standing? He had, during the past two weeks, seen several cases where babies had been brought in without very high temperature, and yet the autopsies had shown quite extensive infiltration, in one instance involving the whole of both lower lobes.

Dr. Jacobi said there were three classes of pneumonia in which very high temperatures need not be expected: 1. That of old age. 2. The pneumonia of infants. 3. Pneumonia occurring in infants who had had other diseases by which they were reduced.

The Use of Spirits and Malted Drinks in Nursing Women.—Dr. Jacobi opened a discussion on this subject. He thought the question intimately connected with that of diet generally, as to whether it was possible for foreign substances in the blood to get into the secretions of the mammæ, and from there into the digestive organs of the baby. The speaker then dealt at length with the whole subject of the chemical and physiological experiments on milk secretion. He pointed out that the character and quality of the breast secretions of the mother were subject by many causes to continual variation. As long as the milk was a real secretion there was but little danger that any deleterious matter which might be floating in the blood would get admixed with the mammary secretion, but as soon as the woman became anæmic or got below par the secretion would no longer be simply milk, but part of it would be serum and other material foreign to its normal composition. Whatever floated in the serum would find its way into the mammæ and into the baby. This could be seen when we compared colostrum with milk. Conditions of the mother's milk, which in the later months of the child's nursing life would be absolutely devoid of danger, might, immediately after birth and while the milk still contained colostrum, produce much mischief.

Discussing then the subject of alcohol, the speaker said that the difficulty at once presented itself as to the woman's exact condition. Some women could take a certain quantity of spirits, while a feeble person taking the same quantity might produce results deleterious to the baby. It had been stated that the nursing woman must not have spirits, but that she must have beer. Most of those who insisted upon this point were the nurses themselves. Blood saturated with alcohol could not be good nutriment for the fœtus, and the same was true of the baby; and supposing the milk secreted to be, from any disturbance in the health of the mother, partly serum, then alcohol taken by her would certainly be found in the mother's milk. It might be true that this could only be urged in the case of those who were habitual drunkards, but he saw in the best families wet-nurses who would get drunk, and who would in that way be certainly likely to injure the baby. It had been stated, among other things, that alcohol increased the quantity of milk secreted. This had been also denied. There was only one remedy which, in the speaker's knowledge, would influence the secretion of milk and cause its increase, and that was salicylate of sodium. Alcohol, when taken, acted as the carbohydrates generally did. It had a certain amount of nutritive action, but when given in larger quantities it was not utilized in the milk production. This disposed, in the speaker's mind, of any idea of the necessity of giving malt liquors or spirits. There might, however, exist a necessity for its use on general medical principles. When stimulation was required, wine or beer might be indicated. The most that could be urged in favor of its general use was that a small quantity, if regularly given, would not be harmful. If it was expected that the hops in beer would act as a stomachic, it might be given with two or three of the meals. Whatever the carbohydrates in alcoholic drinks could do might be done equally well by carbohydrates administered in some other form. Whatever beer could do might be done just as well by milk and farinaceous foods, both supplying the large amount of albumin necessary. A woman who was not nursing, required ninety grammes of albumin daily, and one who nursed one hundred and sixty grammes. A greater amount of milk and farinaceous food in the woman's diet would supply this extra seventy or eighty grammes. He should prefer those foods which contained a large amount of albuminoids, such as oatmeal and barley.

Dr. E. L. Partridge said it seemed to him that benefit did arise, or at least an increase in the quantity of milk might be obtained, from the use of alcohol and malted liquors given in certain ways. Many nursing women were below par and were probably benefited. This fact might account in a great measure for their empirical use. High-pressure nursing by the use of stimulants was extremely undesirable, and would, he believed, determine functional disorders of the heart or pelvic organs, and bring about injury to the child. In cases where this high-pressure nursing had to be resorted to, it was better to make use of artificial feeding instead, for this, properly conducted, would be more beneficial at least to the child. As to any mischievous influences on the child from the moderate use of stimulants in the mother, he had been unable to trace such in his experience.

Dr. A. Seibert said that it seemed to him that in considering this question it was well to bear in mind not only the immediate effects of the alcohol on the mother and child, but also the bacteria which formed in some of the alcoholic beverages, especially beer, taken by the mother, and which he believed entered the milk and then the stomach of the infant, causing intestinal and other troubles.

Dr. E. H. Grandin said his personal experience would lead him to disagree with the remarks of the gentleman who had last spoken. He had never been able to trace any injury to the nurse or child from allowing the former a judicious quantity of malt liquors. As regarded the necessity for the use of alcohols, he should venture to dissent from the opinion of Dr. Jacobi. He had found that these anæmic women who possessed but little true glandular tissue in the mammæ, and made such poor nurses, could be made to give good milk in fair quantity by the judicious administration of malted liquors in the form of ale, porter, or stout. The women who possessed good breasts and plenty of milk and who could be taught to nurse their babies at regular intervals, he had not found in need of malt or alcohol. Those who were too feeble to nurse without stimulants he allowed to have it, and with direct benefit rather than injury to the child, their use not only increasing the quantity but the quality of the milk given. He had never seen a single instance where he could trace any gastro-intestinal disturbance to the use, in moderation, of malt liquors.

Dr. Jacobi said it appeared to him that the opinions of all the gentlemen who had spoken were about the same. They all agreed that liquors were unnecessary and mostly injurious, or that they ought to be used, if at all, for stomachic or tonic purposes. If medical men in general practice were guided by such opinions, they would be pretty sure to do what was right for the woman.

Reports on the Progress of Medicine.

PHYSIOLOGY.

By LOUISE G. RABINOVITCH, M. D.,
PHILADELPHIA.

The Fate of Sugars and their Effect on the Organism.—M. Albertoni (*Jour. de méd., chir. et pharm.*, No. 7, 1889) considers the question of the absorption of sugars which are ingested in considerable quantities as food to be important; it concerns, he thinks, both physiology and pathology, as far as it relates to the pathogenesis of diabetes.

With reference to the absorption of glucose, the works of Funke, von Becker, Smith, Meade, Aurep, and Tappeiner are mentioned, with the objection, however, that the animals experimented upon by these authors were under special or artificial conditions, and that in general their works show only that glucose is absorbed in the gastro-intestinal tract, without specifying the quantity and limits of absorption, especially in the normal state of the system.

On the ground of his experiments, M. Albertoni thinks it is incorrect to admit that the absorption is regulated by the physical laws of density of liquids. The object of his work is to determine the rapidity and intensity of absorption of glucose solutions of different degrees of concentration introduced into the gastro-intestinal tract under normal conditions.

The author experimented on dogs which were deprived of food for twenty-four hours. The amount of sugar in the solution ingested or injected, and the time that it remained in the gastro-intestinal tract, having been known, he was enabled to judge of the amount of sugars absorbed for a given time by collecting the remaining liquids in the same tract after sacrificing the animal and testing the liquid, previously purified, by means of different chemical methods.

An elaborate table of experiments is given, and the author concludes that the rapidity and intensity of the absorption of glucose are considerably greater than they have been supposed to be. According to the table, the absorption of glucose in an hour amounts to from sixty to sixty-five grammes, and during the subsequent hours the quantity absorbed diminishes; the explanation of this is, as alleged, that, the organism being saturated with glucose to a given point, its absorbing property for the glucose diminishes.

The statement as regards absorption is true of glucose solutions of less as well as of greater density than that of the blood, the fact being more conspicuous, however, in the former case. The sugar solution remaining in the stomach unabsorbed diminishes always in density, which may become inferior to that of the blood, but is superior to that of the plasma.

The glucose disappears from the stomach independently of the quantity of water in which it is dissolved, and disappears in greater quantity than the water that holds it in solution, without respect to whether the solution is of less or greater density than the water.

It is probable, Professor Albertoni thinks, that the absorption is accomplished in the stomach itself; it always contains the unabsorbed mass of liquid. He seeks confirmation of the statement in one of the experiments in which the vagi were cut through; because of the induced pyloric insufficiency, the intestine contained much more liquid and glucose than in any other experiment.

The effect of sugars on the circulation is under consideration in the second part of the work, and this is stated to be the first work on the subject.

A. Action on the Blood-pressure.—The author published his first work concerning the question some years ago, in which he endeavored to show that saccharose and glucose injected into the blood in moderate doses augmented the blood-pressure, and that this was manifested instantly, lasting as long as the blood contained an excess of sugar. The degree of augmentation of blood-pressure is not in relation with the quantity injected, but its duration is, for the organism needs a longer time to eliminate the excess of sugar.

It is known now, the author alleges, that maltose is formed at the same time with the glucose, and, having used pure maltose in his experiments, he found this substance to act like glucose and saccharose.

The results of the experiments are given in a table which shows the decided augmentation of blood-pressure, the mechanism of which is explained as follows:

1. The augmentation of blood-pressure is brought about neither by the influence of the vaso-motor centers nor by the action on the capillaries themselves; the vessels dilate relatively after injection of glucose, and the blood-pressure augments whether a section is made of the cord beneath the calamus or of the cord and the vagi.

2. The augmentation of pressure is not dependent upon paralysis of the vagi, since it remains the same after section of these nerves, and, in case of the pressure being augmented by glucose injections, the pressure increases progressively after the section of the nerves.

The heart is the organ that shares in this augmentation of blood-pressure; the increased frequency of the heart-beats is not the essential factor necessary to accomplish this, for in dogs whose vagi are cut the pressure increases after injection of glucose without the pulse becoming more frequent. It is the increased systolic excursion that maintains the elevation of pressure. This fact was evident from experiments on frogs whose heart-beats were obtained by Marey's apparatus. A few drops of a one-per-cent. glucose solution were poured on the cardiac muscle, and the elevation of blood-pressure was most conspicuous. The reasoning does not hold good if the increased pressure is explained by the presence of an additional amount of liquid in the shape of the solution in the blood; for, firstly, the added mass, from four to eight grammes, which suffices to augment considerably the pressure, is too small to be looked upon as a cause of augmentation; secondly, the coexisting vascular dilatation would compensate sufficiently for the additional liquid mass.

The supposition that the phenomenon might be due to the fever induced by the injection into the blood is to be excluded with certainty, for the effects are instantaneous and last as long as there is an excess of sugar in the blood.

B. The Action on the Frequency of the Pulse—This augments with the blood-pressure, the ratio being 20 to 40 pulsations a minute, according to what animal is used after an injection of from 15 to 30 grammes of glucose, maltose, or saccharose. It lasts until the excess of sugar is eliminated from the blood. This augmentation in the frequency of the pulse is not met with in either rabbits or dogs whose cervical vagi are cut.

The author experimented on human subjects, administering sugar by the mouth; he concludes that a slight augmentation in the frequency of the pulse is noticed, which is manifested more or less quickly according to different accidental and secondary circumstances. In cases where there was nausea the pulse failed to become more frequent.

The foods, the author concludes, containing starches and sugar have certainly an analogous action on the organism, and this explains certain physiological phenomena subsequent to meals.

C. Action on the Blood-vessels and the Velocity of the Circulation.—The action of glucose on the vessels is determined by observing the change in volume of the organs, and the quantity of blood flowing out from an opened vessel in a unit of time.

That sugar dilates the blood-vessels was inferred from the augmentation of the limbs in volume; this was verified by means of Roy's apparatus, and the quantity of blood shed from a given vessel in a unit of time was double the normal. The rapidity of the circulation was decidedly increased.

D. The Influence of Sugars on the Urinary Secretion.—A number of authors, it is said, are of the opinion that in diabetes the extraordinary increase of the amount of urine is dependent upon the elimination of sugar; special researches on the subject have been made only recently by Richet, Moutard-Martin, and the author himself. According to Richet and Moutard-Martin, a small amount of sugar in the blood—0·50 gramme to the animal's kilogramme of weight—is sufficient to induce a noticeable polyuria. It is not to be attributed to the water absorbed with the solution, for ten times the volume of pure water injected will not produce the same effect.

The author professes to have investigated the question before the authors named (*Giornal. di quest. acc.*, v. v, xxix, p. 178), and to have endeavored to point out that the duration and intensity of the induced polyuria varied according to the quantity of sugar injected. The polyuria and glycosuria are not dependent upon spinal irritation, which might give similar results; the same phenomena are observed in dogs with the spinal cord divided below the calamus.

Neither is the fact to be attributed to the increased blood-pressure, for the same is the case in rabbits, which present no modification of blood-pressure.

The dilatation of the renal vessels and the increased rapidity of the circulation determined by the glucose are said to account partly for the polyuria. Besides the indications of these facts by the angeiometer, there is some special effect of the sugar on the uriniferous tubules.

Munk is quoted as having shown on an isolated kidney that the addition of a half per cent. of sugar to the blood led to the production of eight times the normal amount of urine.

Maltose is assimilated in the same proportion as glucose; this is in accordance with the results of Dastre and Bourquelot.

Morphine and chloral interfere with the effects of sugar on the circulation, and have but little influence on the polyuria and glycosuria. Since these drugs are used in diabetes, their effect was tested by administering them before injecting the sugar in small doses. They seemed to check the polyuria and glycosuria to some degree, but this was not the case when large doses of sugar were given.

The experiments show that sugars are not only foods, but at the same time agents modifying the functional actions of the organism. Sugars entering the blood after meals affect the circulation in a way opposite to the enfeebling action of some albuminoid derivatives of peptones that can be formed in the process of digestion (the peptin of Albertoni, the peptonin of Brieger).

Cohnheim is quoted as saying that the accumulation of sugar in the blood is the center of all the phenomena of diabetes, and it is presumed that the same phenomena may be induced artificially by injecting sugar into the blood. The quantitative modifications of the urinary secretion and the changes in the circulatory apparatus are equally produced and are transitory in diabetic patients.

It remains to decide, the author remarks, what the reasons are for the accumulation of glucose in the blood of diabetic patients.

Some Results of Sphygmometric Experiments.—After the description of his sphygmometer and the conveniences of its use, M. A.-M. Bloch (*Comptes rendus de la soc. de biol.*, No. 26, 1889) mentions the precautions necessary for obtaining accurate results, and represents, in figures that are of relative more than of absolute value, the following results of the experiments on his own person relating to the influence of ingested food on the arterial tension:

		Arterial tension.
7.00 P. M.	(immediately before dinner)	575 grammes.
7.30 "	(immediately after dinner)	575 "
7.45 "		675 "
8.00 "		750 "
8.20 "		725 "
8.45 "		650 "
9.00 "		700 "
9.15 "		650 "
9.30 "		625 "
10.30 "		575 "

The increase of arterial tension after meals is especially noticeable if coffee is taken at that time.

The table shows a rapid augmentation of arterial pressure during the hour following meals; then there is gradual fall to the initial standard after the lapse of about three hours. The 700-gramme pressure found at nine o'clock is thought to depend upon some respiratory or other accident, investigation of which has not been made.

In the following table the author represents more striking results:

11.45 A. M.		550 grammes.
1.00 P. M.	(immediately after meals, coffee included)	625 "
1.30 "		650 "
1.45 "		800 "
2.15 "		775 "
3.00 "		550 "

This shows augmentation of arterial tension beginning after meals, continuing the hour following, and attaining 800 grammes, to reach to the initial figure 550 at 3 P. M. Moderate gymnastic exercise is stated to lower arterial pressure, and after the augmentation the initial standard of arterial pressure is reached at a shorter period if exercise is taken after meals.

It is further suggested that the least irregularity in the respiration is very apt to modify the results profoundly, though this is only for a short time. The author confirms the statement by having obtained an arterial pressure of 625 grammes at the time of violent effort, and that of 800 grammes immediately after the exertion.

In conclusion, the statement is made that, for the purpose of obtaining correct pressure-records in the sick, it is necessary to take strictly into consideration the hour of the day, the ingestion of food, and the physical exertion that preceded the sphygmometrical operation. The respiration is to be inspected carefully during the experiment; of much importance is the attitude of the patient; it must be absolutely the same whether the results are to be compared with those found in the normal person or in the patient himself.

Electrical Discharges of the Human Skin under the Influence of Different Forms of Psychical Activity and of Excitation of the End Organs.—Professor Jean, of Tarchanoff (*ibid.*) describes the method of observation in his experiments by means of either Meissner's or Wiedemann's galvanometer. After mentioning the necessity of securing perfect tranquillity of the subject and quiescence in the operating-room, he summarizes the results under the following sections:

1. *Excitation of the Sense Organs.*—Any slight irritation is apt, after a latent period of from one to three seconds, to bring about a cutaneous current that develops and increases gradually; its existence is indicated by the deviation of the galvanometric needle. The direction of the current indicates that the cutaneous regions, rich in sudoriparous glands—such as the palm of the hand and the sole of the foot—become, during the period of excitation, negative in comparison with parts poor in the same glands. In the hand, as well as in the foot, an ascending cutaneous current is developed; it persists for a considerable period, several minutes after which time it declines by a gradually diminishing curve of oscillations. Frequent repetition of the excitation leads to final non-responsiveness. The same results are obtained when the agent of excitation is electricity, thermic or painful impressions, the sound of an electric bell, the visual impression of light, or odorous substances acting on the corresponding organ of perception. Under the various conditions the difference of the manifestation of the cutaneous electric current is quantitative and not qualitative. The manifestation of the current, the author thinks, depends upon the activity of the sudoriparous glands, for the reason that the current is insignificant in regions where these glands are scarce.

2. *Psychical Representation of Different Sensations and Emotions.*—Imagination of any irritation, warmth, pain, joy, etc., is sufficient to make the applied galvanometer indicate development of an electrical cutaneous current that often even surpasses in intensity that obtained by immediate and real excitation. The kind of imaginary excitation has something to do with the intensity of the current, thus: The current is of greater intensity when a feeling of warmth than when that of cold is imagined.

3. *Intellectual Work.*—The intensity of the cutaneous current caused by mental work is in proportion to the difficulty with which the same is performed. The marked influence of mental work on the manifestation of the cutaneous current is evident from the fact that, in cases of subjective exhaustion, or overexcitation, when artificial irritation remains fruitless in causing the current, the latter appears readily in case the person in question is made to perform hard mental work, such as solving a difficult arithmetical problem.

A person in a condition of expectant attention, it is remarked, is unsuitable for experimentation, since this condition causes the galvanometric needle to be in constant oscillation.

4. *Voluntary Muscular Innervation.*—Each muscular contraction is followed by a cutaneous current over the entire body. That not the muscular contraction itself, but the voluntary psychical effort used for the accomplishment of the latter, is the immediate cause of the current the author proves by the fact that a voluntary movement of a toe is sufficient to excite a cutaneous current in the hand, which continues even after the toe is perfectly immobilized, and the intensity of this current is in proportion to the degree of the voluntary effort used.

The conclusion follows that all nervous and psychical efforts in man are accompanied by electrical cutaneous phenomena, or discharges, that represent the physical manifestation of the cutaneous glandular activity always going on during nervous or psychical function. According to the author, the glandular system plays the rôle of a thermic and chemical regulator. In fact, he says, each nervous or psychical act is the source of an increase of heat and of products of disintegration, carbon dioxide being one of those that must be eliminated. The sudoriparous cutaneous glands participating in all nervous and psychical functions diminish, at the same time, the body temperature, augment evaporation, and in this way free the body from the different products of disintegration, the accumulation of which would do harm to the organism.

It is to be admitted that there is an intimate anatomical correlation between the nervous centers of sensorial, psychical, and voluntary motor activity and the nervous centers of the cutaneous and other glands; and that the cutaneous glandular apparatus is the safety-valve against exaggerated body heat and harmful products of accumulation that result from nervous and psychical activity.

The Precritical Discharges in Acute Diseases.—M. Albert Robin (*idem*, No. 15, 1889) professes to have demonstrated the following before the appearance of MM. Roger and Gaume's work relating to the same question:

In typhoid fever the organism is the seat of retention of toxic products; the degree of retention is in proportion to the gravity of the disease; the defervescence, and even the convalescence, is subordinate, in the majority of cases, to the true discharge of the toxic products.

The reality of the retention has been proved by the following facts:

1. Extractive matter in the blood is in direct proportion to the gravity of the disease. In benign forms of disease the quantity of the extractive ingredients in the blood is always higher than under normal conditions.

2. Diminution of the urinary extractives coincides with augmentation of the blood extractives, and at the same time with aggravation of he disease.

The subordination of the critical phenomena to the urinary discharges the author demonstrates as follows:

1. The urinary eliminations follow an ascending course, beginning with the attack; if 50 grammes, on an average, are excreted during the period of the attack, there are 56·50 grammes during the period of defervescence, and 60·13 grammes during the period of convalescence.

2. All phenomena of a critical character are accompanied by an excess of eliminated urinary solids. To decide whether the eliminated sweat during an attack is indifferent or critical, it suffices to find out whether there is diminution or augmentation of the quantity of urine and its solids; diminution shows that it is indifferent, and augmentation that it is critical sweat.

3. The first thermic signs of defervescence are preceded, in 75 out of 100 cases, by an augmented elimination of urinary solids; this takes place twenty-four hours before defervescence. In 23 out of 100 cases this augmented elimination continued during the first day of defervescence. In 24 out of 100 cases it preceded the period of defervescence for from forty-eight to seventy-two hours. It was absent in eighteen per cent. only, of which six per cent. belonged to cases of benign relapses during the course of a benign attack; eight per cent. belonged to very mild forms, and four per cent. to intermediate types. If, instead of taking a hundred typhoid cases in general, the same number of grave cases is considered, the author says he has demonstrated that the discharges he calls *précritique* are observed to be constant. Aside from the importance of these discharges from the physio-pathological standpoint of the crisis, their precritical existence may be a clinical guide in the prognosis, for often the classical signs of defervescence are preceded by it several days in advance.

4. A more or less sudden abortion of a grave attack of typhoid fever is the consequence of a brisk elimination of the *débris* of organic disintegration.

5. The period of convalescence includes, too, a precritical discharge, for in seventy-five per cent. of typhoid cases the quantity of eliminated disintegrated matter was augmented about twenty-four hours before the time when the evening and morning temperature did not go higher than 38° C.

6. The elimination of creatin does not reach its maximum until the third or fourth week of the disease. The maximum is often found at the time of the subsidence of the grave symptoms.

7. Elimination is performed by the kidneys, which are assisted by the same process in other organs.

8. In ordinary forms of typhoid fever the waste elimination is a progressively ascending one in the various successive periods; this is not the case in fever with relapses, which leads one to infer that the relapse occurs because of the imperfect waste excretion during the first subsidence.

9. The critical influence of certain intestinal hæmorrhages and that of epistaxis seem to be destined to excrete poisonous matter from the circulatory system briskly.

The author's experiments related to typhoid fever and other acute diseases, in all of which the waste excretion was found to be reduced.

In conclusion, the author says that the so-called typhoid state, being of much importance in the prognosis of the disease, is caused by retarded excretion of waste matter; this is due either to an excessive production or to an absolute or relative insufficiency of excretion. It is an external expression of the self-intoxication from what he formulates as augmented disintegration, diminished oxidation with retention of waste products.

The importance that he ascribes to his researches is that they enable one to institute a mathematically rational treatment in the different periods of the acute diseases. To the author himself this guide has proved of good service at the bedside. The results were communicated to the Biological Society in 1886.

Miscellany.

The American Society of Microscopists will hold its next meeting in Detroit, on the 12th, 13th, 14th, and 15th of August.

The general session for the reading of papers will be held in the new building of the Detroit College of Medicine, corner of St. Antoine and Catherine Streets and Gratiot Avenue.

The Mayor of Detroit will deliver the address of welcome, to be followed by the response of the president of the society. The Tuesday afternoon session will be devoted to the reading of papers and society business. In the evening a conversazione will be held at hotel headquarters. On Wednesday evening the president will read his annual address, on The Influence of Electricity on Protoplasm. The Thursday afternoon session will be devoted to the various technological features of microscopy, such as the preparing, staining, and mounting of specimens, section-cutting, manipulative methods, etc. In the evening there will be an exhibition of microscopes and objects, popular in character.

The programme includes the following titles: Micrometry, by Professor William A. Rogers, of Waterville, Me.; Uniformity in Tube Length, by Professor Simon H. Gage, of Ithaca, N. Y.; Fees of Experts with the Microscope, by C. M. Vorce, Esq., of Cleveland, Ohio; The Full Utilization of the Capacity of the Microscope, and Means of obtaining the Same, by Edward Bausch, Esq., of Rochester, N. Y.; The Structure of Protoplasm, and Microscope Objectives, by Professor T. J. Burrill, of Champaign, Ill.; Abnormal Forms in the Diatoms, and Conclusions therefrom, and Review of Some of the Generic and Specific Distinctions in the Family *Coscinodisceæ*, by the Hon. Jacob D. Cox, of Cincinnati; The Microscopic Identification of Hair, The Effect of Curvature of the Cover Glass upon Micrometry, Description of Scale (5), manufactured by Marshall D. Ewell, in pursuance of Resolution of A. S. M., adopted in 1889, A New Form of Stage Micrometer, Some Experiments to Determine the Limit of Vision as Related to the Size of the Object observed, and A Review of Some of the Medico-legal Questions involved in the Cronin Case, by Professor Marshall D. Ewell, of Chicago; Observations on the Blood in Health and Disease, by Dr. Simon Flexner, of Louisville; The Transition from Columnar to Stratified Epithelium, and Picric and Chromic Acid for the Rapid Preparation of Tissues for Classes in Histology, by Professor Gage; The *Rotifera* of Central Michigan, and Recent Methods of investigating Microscopical Animals, by Professor D. S. Kellicott, of Columbus, Ohio; Some Methods of treating Nerve Tissue, by Dr. William C. Krauss, of Buffalo; An Infallible Method of preparing Injecting Gelatin and injecting Small Animals, and Observations on Mounting, by Dr. R. N. Reynolds, of Detroit; Résumé of the Past Year's Advance in Microscopy, by Dr. Lee H. Smith, of Buffalo; and A New Flash Light in Photography as applied to Microscopy, Postal Cards and Vegetable Fibers, The Possibilities of the James Cement, with Many Fine Specimens, by Dr. Thomas-Taylor, of Washington.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for June 27th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	June 21.	1,617,000	773	..	..	..	..	..	..	3	11	29	10	8
Chicago, Ill.	June 21.	1,100,000	292	..	..	..	..	..	..	27	4	7	2	1
Philadelphia, Pa.	May 31.	1,064,277	482	..	..	..	..	..	..	11	1	9	3	2
Brooklyn, N. Y.	June 21.	859,612	370	..	..	..	..	..	..	1	5	15	3	2
Baltimore, Md.	June 21.	500,343	254	..	..	..	..	..	..	4	1	2	2	....
Boston, Mass	June 21.	420,000	166	..	..	..	..	..	..	3	..	5	..	1
Cincinnati, Ohio	June 20.	325,000	146	..	..	..	..	..	..	1	3	5	..	....
New Orleans, La.	June 14.	254,000	173	..	..	..	..	..	..	..	1	..	2	1
Detroit, Mich	June 14.	250,000	68	..	..	..	..	..	..	..	2	1	2	....
Washington, D. C	June 21.	250,000	121	..	..	..	..	..	..	7	..	..	1	...
Cleveland, Ohio	May 31.	240,310	86	..	..	..	..	..	..	6	..	1	1	1
Cleveland, Ohio	June 7.	240,310	116	..	..	..	..	..	..	7	..	1	1	2
Milwaukee, Wis.	June 21.	240,000	63	..	..	..	..	..	..	..	3	6	..	....
Pittsburgh, Pa.	June 21.	240,000	159	..	..	..	..	..	..	2	..	2	12	....
Louisville, Ky	June 21.	227,000	74	..	..	..	..	..	..	3	..	..	..	....
Newark, N. J.	June 14.	197,360	71	..	..	..	..	..	..	1	..	3	2	....
Kansas City, Mo	June 21.	180,000	58	..	..	..	..	..	..	3	2	..	..	1
Denver, Col.	June 20.	150,000	52	..	..	..	..	..	..	..	..	2	..	1
Providence, R. I.	June 21.	130,000	45	..	..	..	..	..	..	1	..	..	2	....
Indianapolis, Ind.	June 20.	129,346	35	..	..	..	..	..	..	..	..	..	..	....
Toledo, Ohio	June 21.	92,000	29	..	..	..	..	..	..	..	1	7	..	....
Fall River, Mass.	June 21.	69,000	17	..	..	..	..	..	..	..	..	..	..	....
Nashville, Tenn	June 21.	68,531	34	..	..	..	..	..	..	2	..	..	..	..
Charleston, S. C.	June 21.	60,145	... ..	..	..	..	1	..	..	1	..	..	1	3
Manchester, N. H.	June 21.	43,000	......	..	..	..	..	..	..	..	..	..	..	....
Portland, Me.	June 21.	42,000	13	..	..	..	..	..	..	..	..	..	..	1
Binghamton, N. Y.	June 21.	35,000	10	..	..	..	..	..	..	..	..	..	1	....
Yonkers, N. Y.	June 20.	31,000	12	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	June 21.	26,000	14	..	..	..	..	..	..	..	..	2	..	....
Newton, Mass.	June 14.	22,011	7	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	June 21.	22,011	5	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	June 15.	16,000	4	..	..	..	..	..	..	..	..	..	..	1
Pensacola, Fla.	June 14.	15,000	3	..	..	..	..	..	..	1	..	..	..	....

Foreign and American Brandy.—In the course of an editorial reply to an inquiring correspondent, *The Sanitarian* for June says:

"Pure brandy has the distinctive odor of the essential oil of grapes, *huile de Cognac.* But the misfortune is that this oil is largely used to counterfeit brandy by giving odor to other distillations. Moreover, in France especially, brandy is frequently distilled from poor wine or the juice of bad grapes, such as have failed in maturing or become acid and unfit for wine—or anything else. It seems almost needless to remark that all such brandy is of poor quality—no matter how exquisitely it may be flavored—but it is abundant. *Time* is an essential element in the production of good wine and brandy alike—time after fermentation and distillation required for the combination of the contained ethers and essential oils produced by fermentation and distillation. But, besides, there is an acquired art in regulating the distillation of brandy, the flavor being influenced by the greater or less rapidity of conducting the process. When this is lacking, as it too often is under inexperienced manufacturers, the product is of inferior quality and subjected to such additional treatment as may improve the flavor but aggravate the quality. English brandy is usually prolific in *fusel oil.* The foregoing remarks apply more or less to all imported wines and liquors; substitution and adulteration are common practices, and the difficulty in obtaining those that are pure is greater than it is among American manufacturers. Indeed, it has long since been demonstrated that almost everywhere south of the fortieth degree of latitude in the United States the soil and climate are well adapted to the cultivation of the vine; and forty years' experience in California particularly, since Longworth so successfully exhibited the results of even a less favored region, there has been no lack of ambitious manufacturers, until some of our domestic wines and brandies will favorably compare with even the choicest importations. True it is, as above implied, that the different conditions of climate—not always appreciable—season, and soil, the different modes of culture of the vine, the different management in the processes of fermentation and distillation, and the different means of preserving both fermented and distilled liquors—all contribute to the results. But the Californians have not been slow in the acquisition of all such knowledge, and it is now concentrated to such a degree that they can well afford to challenge comparison. Judged by samples, of which we have availed ourselves of the opportunity to examine, the wines and stronger liquors sold by the California Vintage Company, New York, will compare favorably with the same varieties from any other source."

ANSWERS TO CORRESPONDENTS.

No. 323.—We do not understand that the requirements of the act apply to physicians already in practice in the State.

No. 324.—The action of the two drugs is not antagonistic.

No. 325.—Two specimens of the urine are examined at the same time. Yeast is added to one of them, and the bottle is corked loosely and kept in a warm place for twenty-four hours. The other one is kept at the same temperature, but without the addition of yeast. Then the specific gravity of each of the specimens is taken, when it will be found that the fermented specimen has lost in density, and each degree of density lost represents the original presence of a grain of glucose in each fluidounce of the urine. For example, if the specific gravity of the unfermented specimen is 1·030, and that of the fermented specimen 1·020, the urine contained ten grains of glucose in each fluidounce.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, JULY 12, 1890.

Original Communications.

ACCIDENTAL SUFFOCATION AS A CAUSE OF SUDDEN DEATH.*

By HERMANN M. BIGGS, M.D., AND
WILLIAM T. JENKINS, M.D.,
CORONER'S PHYSICIAN.

THE subject of sudden death and its causes does not often receive from physicians much consideration, largely, perhaps, because they are accustomed to consider that their responsibility has reached an end when death has occurred, or at least in these cases the responsibility is then delegated to the proper officials.

Something more than a year ago one of us published a paper directing especial attention to one of the most frequent causes of sudden death, and one which has received but insufficient recognition—viz., the rupture of aortic aneurysms. In that paper attention was called to the infrequency of the determination of the cause of sudden death by physicians other than the coroners' physicians. In cases of sudden death among the poorer classes the physician who may be called does not interest himself sufficiently in the case to request an autopsy, and among the better classes, even if the physician desires an examination, the friends usually object to its being made. The prevailing opinion among physicians is that the cause of sudden death in a large proportion of instances is some form of heart disease (especially disease of the myocardium) or cerebral hæmorrhage, and to one of these causes death in such cases is usually ascribed.

We desire in this paper to direct attention to the frequency of accidental suffocation as a cause of sudden death and to report a series of cases, some of which have considerable interest because of their uniqueness.

In children it appears to us that no other cause compares with this in frequency in the production of sudden death, and among adults it is far more common than is generally supposed. Excepting in those cases of accidental suffocation where death results from the lodgment of foreign bodies in the air-passages, the cause of death must often be determined by the detailed history, obtained only after careful questioning of the friends, by the external appearances of the body, by the general evidences of death from suffocation, found in the internal organs, and by the absence of any other determining cause for death.

In many cases the history, if carefully drawn out, will show that the subject was an epileptic or an alcoholic and was found lying on the face dead. If the subject is an infant, the history will probably show that the position in which the child was found was such that there was obstruction in some way of the openings of the mouth and nares. It is very painful to the mother and often quite unnecessary to bring out this fact too clearly.

The external appearances are often of great value in determining the cause of death. In death from suffocation the blood usually remains fluid, and suggillation is very much marked. The position of the livor mortis on the anterior, posterior, or lateral surfaces of the body often gives the key at once to the posture of the body at the time of death, and its absence at certain points on these surfaces indicates the points of pressure here, and sometimes from the stamp thus produced on the soft parts the character of the object producing the pressure may be determined. Internally the blood is found to be fluid, the heart is in diastole, the lungs and bronchial mucous membrane are deeply congested, there are, perhaps, petechial hæmorrhages in the pleura and the pericardium, and there is a general congestion of the abdominal organs. The history in such cases, with the external and internal appearances just detailed, point in the most unmistakable manner to death from suffocation.

The illustrative cases reported in this paper, as well as all those upon which it is based, occurred in the services of the coroners' physicians, and, with one or two exceptions, all occurred in the service of Dr. Jenkins.

Cases of accidental suffocation, for convenience, may be grouped under the following heads:

1. Accidental suffocation produced by the lodgment of foreign bodies in the larynx or trachea.
2. Cases of accidental suffocation of infants by obstruction of the mouth and nares.
3. Accidental suffocation in epileptics during convulsions and in alcoholic subjects during intoxication.
4. Various other causes producing closure of the air-passages, including submersion, inhumation, strangulation, etc.

This fourth class of cases will not be considered in this paper.

The cases grouped under the first head, the lodgment of foreign bodies in the larynx or trachea, may be divided, for convenience, into those occurring in children and those occurring in adults; the former are by far the most common. In them the foreign body in a large proportion of cases is some object that the child has found and put into its mouth (in accordance with the habit so common in children), and which has been drawn into the larynx during some sudden inspiratory effort. The object may also be some article of food. In adults the foreign body is almost invariably an alimentary bolus, and usually meat. The rapidity with which death occurs in these cases depends upon the completeness of the obstruction of the air-passages and the violence of the reflex symptoms. If the obstruction is not complete, it is often made complete by spasm of the glottis. In such cases death apparently often occurs within five minutes; it is rarely more than ten, and not infrequently it is instantaneous.

One or two of the cases reported in this paper illustrate the occurrence of instant death by lodgment of a foreign body in the larynx, and the following case, published by Perrin,* also shows the manner of death: An old man, aged sixty-eight years, fell suddenly as if struck by lightning while leaving a café. At the autopsy an alimentary bolus composed of pancake was found, filling the post-pharyngeal cavity and extending forward to the orifice of the glottis; the epiglottis was raised. Numerous cases similar to this have been reported. In them there are frequently no signs or symptoms of obstruction of the air-passages during life, and in fact death is so nearly instantaneous that there is no time for the manifestation of signs or symptoms of any kind. In these cases the post-mortem appearances do not suggest that asphyxiation was the cause of death, and the nature of the cause will almost certainly escape recognition at the autopsy unless the possibility of accidental suffocation is kept in mind and the larynx is removed and examined. (As a rule in this country, unless there is something to direct attention to the larynx, it is not removed or examined in autopsies.)

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* Read before the New York Clinical Society, January 24, 1890.

* Reported in Poulet's *Foreign Bodies in Surgery*.

In those cases where death is instantaneous, or almost instantaneous, it apparently is the result of reflex inhibition of the heart's action through the fibers of the pneumogastric nerve. Certainly it is not produced by asphyxiation.

Not only may death be produced by the entrance of solid foreign bodies, but numerous cases have been recorded where it has resulted from the entrance into the larynx or trachea of fluids. In such cases death results either from the filling up of the bronchi and trachea with fluid or from the intensity of the reflex phenomena and the spasm of the glottis. In fact, in all cases of foreign bodies in the larynx these latter symptoms are the most alarming ones.

Guyon* reports a case where instant death resulted from the cauterization of the larynx by dilute ammonia. Death was apparently caused by spasmodic contraction of the glottis.

A case is reported from the Italian by Poulet,† in which a child was found chewing some coal. The mother surprised him and made him drink some water hurriedly. Part of the fluid fell into the trachea and rapidly produced death.

The opening of large abscesses or tubercular cavities into the bronchi or trachea may sometimes produce death in the same manner as in the introduction of fluids from without; numerous such cases are on record. Reasoning *a priori*, it would seem as if a simple spasm of the glottis could not result in death, because the spasm would be relieved before complete asphyxiation had occurred. The fact, however, seems to be that, although this is perhaps in part true, yet sometimes, when the spasm is relieved, the respiratory centers have become so benumbed from the action of carbonic-acid gas, or the want of oxygen, that no further efforts at respiration are made. The motor center of the larynx is probably far more tolerant of carbonic-acid gas or want of oxygen than the respiratory center, and motor impulses may continue to be sent out from this, producing spasm of the glottis, even after the irritability of the respiratory center had been completely lost. Benumbing of the respiratory center would seem to be the cause of death in those cases where death occurs during the operation of tracheotomy, when respiration ceases and the action of the heart continues, but respiration can not be re established even after the air-passages are opened and the obstruction is removed.

In almost all the cases where foreign bodies are drawn into the larynx the immediate cause of the obstruction is some sudden inspiration—in laughing, coughing, shouting, or something causing surprise or fright, or some sudden start.

Cases of Sudden Death from the Lodgment of Foreign Bodies in the Larynx or Trachea.

Case I.—A boy, aged fifteen years, was playing in one of the city parks during recess for dinner; suddenly he fell to the ground, became deeply cyanosed, and grasped his throat. His companions thought he was having a convulsion. A physician was sent for, but before his arrival the boy was dead. Death occurred, probably, within five minutes. He was removed to his home, and death was ascribed to heart disease. At the autopsy a collar-button was found in the larynx, with the head below the vocal cords and the base of the button resting upon the cords. The opening in the glottis was completely closed. Aside from this, the organs showed the lesions usually found in death from suffocation.

Case II.—A school-boy, aged ten years, acting as monitor of his class, was suddenly seized with difficulty of breathing, became quickly unconscious, and died. The teacher, who was a physician, thought the boy had had an epileptic convulsion. The boy had been eating some bread and butter. At the autopsy his face was still deeply cyanosed, and there was found in the larynx a mass of soft, fatty matter that melted at the temperature of the human body. The usual lesions in death from asphyxiation were found in the other organs.

Case III.—A child, aged about five years, while playing about his father's knee on the sidewalk and eating an orange, suddenly became cyanosed, the respiration became difficult, and he fell to the sidewalk. The father, supposing he was having a convulsion, took him into a drug-store and gave him a hot bath. In about five minutes the child was dead. Several physicians were present, who expressed the opinion that the child died from heart disease. At the autopsy the face was still deeply cyanosed. The usual lesions in death from asphyxiation were found; in addition, the bronchial glands were greatly enlarged and the left primary bronchus was somewhat compressed. Just above the bifurcation of the trachea there was an opening, through which a bronchial gland had been discharged into the trachea and had lodged just at the bifurcation of the trachea in the opening of the left primary bronchus. The gland was enlarged and the center cheesy. Around the cheesy center a suppurative inflammation had occurred, which, extending through, had produced ulceration in the wall of the trachea, and thus the loosened cheesy mass had made its way into the trachea. A case quite similar to this was reported in the *Deutsche medicinische Wochenschrift* of 1887, which occurred in a hospital while the physician was in the ward. A diagnosis of obstruction in the air-passages was made, tracheotomy was immediately performed, the cheesy gland removed, and recovery took place.

Case IV.—A child, aged three years, left his bed in the morning and was eating a piece of cake; on returning to his bed he suddenly showed great difficulty in respiration. The mother thought the child had drawn a piece of cake into the larynx, and introducing her finger into the throat, felt the head of what was apparently a screw. She sent for a friend and they endeavored to dislodge the screw, but in doing so held the head backward with the face turned up. A physician was sent for, but before his arrival the child was dead. At the autopsy a screw was found lodged in the larynx, with the head resting upon the vocal cords and the shaft extending down into the trachea.

Case V.—A boy, aged about five years, while playing with a small rubber balloon with a whistle attachment, suddenly drew the balloon and whistle into his throat. It was so lodged that with each expiration the balloon was partially inflated; before it could be removed the boy was dead.

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* *Dict. encyclop.*, art. Larynx.

† *Foreign Bodies in Surgery.*

Case VI.—A girl, aged about ten years, was holding a jack in her mouth, when a sudden inspiration drew it into the larynx, where it became firmly fixed, and before it could be removed death had occurred.

Case VII.—A man, aged about forty-five, who had been indulging freely in liquor, after ordering and partaking of part of a steak in a restaurant, suddenly fell from his chair to the floor and died; death was almost instantaneous, and was supposed to be due to heart disease. The history led to the suspicion that death had been produced by the lodgment of a foreign body in the larynx, and, on opening the trachea, a large piece of meat was found lodged firmly in the larynx between the vocal cords.

Case VIII.—A man, aged forty years, on the evening of election day, after receiving pay for his services for the day, proceeded to a restaurant to procure, as he said, "a square meal"; suddenly he became deeply cyanosed, showed difficulty of respiration, and fell to the floor. Before help could reach him he was dead. At the autopsy a large piece of meat was found lodged partly in the pharynx and partly in the larynx. There were areas of livor mortis scattered all over the body externally, and the internal organs showed the usual lesions found in death from asphyxiation.

Case IX.—A man, aged about forty, unknown, died suddenly in a restaurant while eating, and was removed to the morgue. After a complete autopsy, with the exception of the examination of the larynx, no sufficient cause for death was found. The history then being obtained that death had occurred in a restaurant, the larynx and trachea were opened and a large piece of meat was found extending from the pharynx into the larynx and partially through the glottis.

Case X.—An inmate of an insane asylum was sent to the morgue, with the history of having choked at the table. A piece of meat was said to have been removed from the larynx. At the autopsy the usual lesions in death from asphyxia were found, and an additional piece of meat was found in the trachea.

Case XI.—An unknown man was leaving a restaurant after eating his dinner, when he fell to the floor, became deeply cyanosed, showed difficulty of respiration, and soon died. He was removed to the morgue, and at the autopsy a piece of meat was found in the larynx.

Case XII.—A man, aged forty, had been eating at the free-lunch counter of a saloon after taking a drink. As he left the saloon he fell to the ground suddenly dead. At the autopsy a mass of crackers and cheese was found in the larynx.

Case XIII.—A negro child, aged about one year, was left with its bottle. The child's movements attracted its mother's attention. Then she noticed that the rubber nipple was missing from the bottle, and that the child was apparently struggling for breath. A physician was summoned, but before he arrived the child was dead. He, however, removed the rubber nipple from the larynx on the end of his finger.

Case XIV.—A patient was admitted to Bellevue Hospital suffering from compound fracture. It was decided to be best to operate immediately, and ether was administered. The patient vomited somewhat while under the influence of the anæsthetic, and suddenly stopped breathing; all attempts to restore respiration failed. The patient died. At the autopsy a mass of vomited matter was found firmly lodged in the larynx.

The cases in the second class—those of accidental suffocation of infants by closure of the mouth and nares—are exceedingly common, and the cause of death usually entirely escapes observation. The most common method of production of death in these cases is the "overlying" of infants while sleeping in bed with their parents. The usual history is, that the mother gave the child her breast during the night; she remembers nothing more; but when she awakened in the morning the child was dead. As has been noted by Tidy and by Jenkins, these cases, which occur for the most part among the lower classes, occur much more frequently on Saturday night or on a night after a holiday. At these times the mothers are likely to be partially stupefied by liquor; they are less thoughtful of their children and their sleep is deep. The mother turns partly on her side toward the child, the breast falls on the child's face, obstructing the entrance to the air-passages, and asphyxiation is gradually produced. The mother sleeps too soundly to be awakened by the movements of the child. Sometimes suffocation results from the bed-clothing being thrown over the child's head, or from its slipping off from the pillow underneath the clothes. These cases are too common to be mentioned in detail.

There are also many peculiar forms of suffocation occurring in infants and children, of which the four cases detailed below are good examples; the cause of death in such cases is often apparent:

Case XV.—Two children slept together in a crib; one was three years old, the other about five months; in the morning the elder one was found lying across the face of the younger, and the latter was dead.

Case XVI.—A child, aged six months, was left by its mother sitting in a high chair. The chair was a combination high chair and carriage, was placed on rather a broad platform (so that it could not be turned over easily), and under this platform were wheels; connecting the two arms of the chair in front of the seat was a guard to hold the child on the seat; the mother had left the child sitting in the chair, and when she returned, at the end of a few minutes, found the child dead, suspended with its face resting on the seat of the chair and with the occiput under the guard.

Case XVII.—A woman, aged twenty-five, an epileptic, fell from a chair with her child in her arms; she was found a short time later in an unconscious condition, overlying the child, which had died from suffocation.

Case XVIII.—A child, aged about eight months, was left alone with a handkerchief to suck; the parents returned after three quarters of an hour and the child was dead, having drawn nearly the whole handkerchief into its throat; vomiting had thus been produced, and this, with the handkerchief, had caused suffocation.

Case XIX.—Two negro infants were left sleeping quietly in a bed made upon some chairs at 3 a. m. by the woman having charge of them. At 6 a. m. they were found dead, covered over by the bed-clothing. The circumstances attending the case showed that death was accidental (Dr. Weston's case).

Cases of the third class—those of accidental suffocation of epileptics during convulsions, and alcoholics during profound intoxication—are comparatively common, and the cause of death when the detailed history is known is apparent. The nature of death, however, is very likely to escape the observation of physicians who are not accustomed to dealing with medico-legal cases, as they do not ascertain, as a rule, by careful questioning, the details in the history.

The history in all these cases of suffocation during epileptic convulsions takes one of two forms:

1. The patient falls on his face in a convulsion and remains lying in such a position that the mouth and nares are closed, or while lying in this position something is drawn into the larynx.

2. Patient has a convulsion while in bed, and during it turns over on the face and remains lying in this position during the unconscious stage, and thus becomes suffocated.

A number of cases are detailed below which illustrate the method of death in this class:

Case XX.—A young man, aged twenty-one, after spending the evening freely drinking with his companions, was found the next morning dead in bed, lying on his face. His companions, who were in the same room, had heard no disturbance during the night. The autopsy revealed only the lesions usually found in death from asphyxiation, and it was only after careful inquiry, directed by these lesions, that it was discovered that he had been found lying on his face in the bed. A small nodule was found in the dura on the left side; possibly owing to this or to the effects of alcohol, an epileptiform convulsion had resulted, and death was thus produced from suffocation.

Case XXI.—A girl, aged twelve, an epileptic, was found by her family in the morning dead in her bed, lying on her face.

Case XXII.—A young woman, aged twenty-one, an epileptic, was found dead in her bed in the morning, lying on her face.

Case XXIII.—A girl, aged eighteen, with the same history.

Case XXIV.—A woman, aged thirty-five, an epileptic, was found in the evening by her child on its return from school, lying on her face on the floor dead.

Case XXV.—Young woman, aged twenty-eight, an epileptic, while passing from one room to another quickly, during considerable excitement, suddenly fell on the floor on her face, and when assistance reached her, several minutes later, was dead.

Case XXVI.—A German, aged thirty-five, an officer's servant, during severe depression attempted suicide by shooting himself in the head. The ball lodged in the brain and was found there encapsulated years afterward. After this he became epileptic, and while vomiting, during a convulsion, asphyxiation was produced by the passage of food into the larynx.

Case XXVII.—A noted case has been reported by Dr. Janeway of death from suffocation in an epileptic who had a convulsion in a stable yard, and, falling upon his face upon the ground, was suffocated by manure drawn into his larynx. At the autopsy the larynx was found closed by masses of manure.

Case XXVIII.—A young man, aged twenty-three, an epileptic, was found dead in the morning, lying partly on the cot on which he slept and partly on a chair. The imprint of the cane seat of the chair was on the right side of his face and neck, and the discoloration here corresponded to the opening in the cane bottom of the chair on which he rested.

The face was deeply cyanosed, and at the autopsy nothing was found excepting the lesions common in death from asphyxiation.

Case XXIX.—A young man, an epileptic, went out at night into a stable yard to defecate. Just after completing the act he apparently fell forward in a convulsion, with his face downward, into a watering trough, which contained water only four or five inches in depth. Here he was found some hours later dead.

Death while a person is in a state of profound intoxication is less frequent than death during an epileptic convulsion, but its mechanism is the same. The following case illustrates this form very well:

Case XXX.—A German man, aged thirty, came home greatly intoxicated and threw himself prone on the bed. He was found dead in this position some hours after by his friends. Death had resulted from suffocation.

The cases grouped under the fourth head—those of submersion, strangulation, inhumation, etc.—form a separate class; the cause of death is usually apparent, and their consideration will be omitted here.

In conclusion, the following remarks are suggested:

1. Accidental suffocation is a common cause of sudden death, especially in children, and the cause of death usually escapes recognition.

2. Death produced by the lodgment of foreign bodies in the larynx or trachea occurs rapidly, and is sometimes almost instantaneous. The foreign body may be liquid as well as solid.

3. When death is instantaneous, it is probably the result of reflex inhibition of the heart's action.

4. In children the foreign body is usually some plaything that has been placed in the mouth, while in adults it is almost invariably an alimentary bolus, frequently meat.

5. The accidental suffocation of infants in bed by the bed-clothing and by "overlying" is a very common occurrence among the lower classes.

6. Death often results from suffocation during epileptic convulsions and during profound alcoholic intoxication.

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THE BRANDT REMEDIAL METHODS FOR PELVIC AFFECTIONS.

By GEORGE H. TAYLOR, M. D.

The communication of Dr. J. H. Boldt in the June number of the *American Journal of Obstetrics* explaining and advocating certain unique manual processes for the cure of affections of the contents of the female pelvis appears to invite examination, perhaps criticism. I will therefore proceed to bestow such notice on the remedial system referred to as its pretensions seem to call for.

The purpose of Dr. Boldt's article is to show the remedial power as well as the availability of *local massage* and allied manual methods for removing malpositions, congestions, functional irregularities and defects, and even more severe and advanced pathological conditions of the uterus and its appendages.

It is due that reasons be given why any reference to the subject introduced by Dr. Boldt's article is required. The peculiar practice described at length and with sufficient minuteness by Dr. Boldt was ostensibly inaugurated by T. Brandt, a non-medical Swede, the author of a thin volume, of which Dr. Boldt's communication is a *résumé.* The curative plan shown may appear plausible and even practical to the inexperienced and to those inclined to medical novelties. Positive and vehement assertions in medical matters, especially when backed by a formidable array of successful cases, readily usurp the place of scientific statement and real merit. A tendency to accept and follow authority, or what seems such, is an instinct often insufficiently held in check by the reflective powers.

A conspicuous evidence of this tendency is now before me. A book just published from the pen of Dr. Herman Nebel at Wiesbaden, Germany, not only strongly advocates the Brandt system, but cites a long list of presumably respectable physicians in that country who have wholly or in part adopted in actual practice the same remarkable curative methods for the special class of cases before mentioned. This shows the importance of an intelligent presentation of the difficulties which the Brandt and similar methods have no adaptation to overcome and which *must* remain to torment both victims and advocates.

A further need for comment arises from the liability of the casual reader, who finds it impossible to keep himself "posted" on all phases of medical subjects, to confound the principles and methods set forth by Brandt with certain others which are in fact diametrically and unreservedly opposed thereto. It will become necessary in the course of the present article to give an intimation at least of the nature of these opposing principles.

History repeats itself even in affairs of the female pelvis. The Brandt system, if such it may be called, is devoid even of the questionable merit of novelty. Remedial processes substantially identical with those described by Dr. Boldt and Mr. Brandt, with such elaboration of detail, were, to my personal knowledge, much in vogue forty years ago in this country. It may not be without interest, perhaps may combine entertainment with warning, to advert to a bit of this history.

The inception of a practice of local "massage" for remedying various ills of the generative intestine dates back to the appearance in this country of the elder J. H. Bennett's book on the uterus, which was 1850. This work was extensively regarded as affording the last words to be said on what has since become developed into the many-sided and almost unlimited subject of gynæcology. Bennett's local methods of uterine therapeutics were generally adopted and often administered with more vigor than discretion. These methods were, of course, subject to "improvements"; among these improvements were local "massage" and a multitude of allied processes which were regarded as modes of securing the same effects. Afterward local massage became a practical substitute for, rather than an auxiliary to, direct medication of accessible portions of the generative intestine. Under the prevailing hypothesis of the nature of diseases of these parts of the body nice questions of ætiology were not troublesome.

Then, as now, there was abundant scope for the uterine specialist, for then, as now, there were women who preferred remedies to preventives, who preferred the chances of "cure" to the immunity offered through a wise discretion as to self-care. No one supposes that the average chronic "female disease" is inevitable; but, unfortunately, the avoidance of this class of affections has been and is but little discussed. Uterine specialists exist in response to the perennial demand, and the demand must continue till displaced by exemption, arising from the intelligence necessary for every woman on this subject.

At the period referred to, chronic uterine affections assumed a degree of prevalence typified by epidemics. Establishments devoted principally or wholly to this frail part of the female organism were judiciously located in this State and in parts of New England. Uterine defects and uterine cobbling were decidedly the *fad*. I knew of doctors without diplomas but with overwhelming patronage. The lack of authorization appeared to be no bar to success; and is not success sufficient evidence of both ability and merit? I was told of an omnibus line ending a short distance from this city which was literally crowded with women going to and returning from an eminent specialist. His methods consisted mainly in pushing up and properly poising the recalcitrant parts and executing at the same time interior local massage "from three to forty-five minutes," to be frequently repeated. One more reference, out of several I might give, will complete the surfeit of the reader and show the ease with which a certain kind of popularity has in times past been acquired. This specialist had a large establishment in a central part of this State. He had no medical or much other education. The two hundred women almost constantly present for years received personal attention from himself, assisted by one or two female helpers. His processes are well described in Dr. Boldt's article. He withdrew from practice, without diminution of patronage or popularity, only when his pecuniary ambition had become fully gratified. These facts were derived in part from personal interviews with the "doctor," in part from ex-patients. Other establishments, including the uterine specialty with a broader pathological scope, added the therapeutic attractions of electricity, various kinds of baths, etc.

We may call attention to the intrinsic nature of the difficulties presenting in these cases of disease and malposition of the pelvic organs, the better to understand the adaptation and want of adaptation of "massage" and other remedies for their removal.

Can poising the uterus, however dexterously, upon the tip of an operator's finger, can maintaining it in such position "from three to forty-five" or any number of minutes, not forgetting due interior combined with exterior massage, afford any considerable and practical information as to *why* this organ so insists on taking a downward or lateral excursion; *why* it doubles upon itself? How does toying with these perverse parts check or reverse their erratic tendencies? How, even, can prolonged sustentation of the uterus in an elevated and natural position, supposed to be secured by instruments, unravel the mystery of the *causes* of dislocation and deformity of the pelvic contents? Local "massage" sustains nothing; the pessary is only thrust between organs and parts; the supporter is buckled outside the same region; but how does either add to the physiological sustaining power? They only *seem* to the uninquiring to do so, but without scientific warrant. The downward tendency is not abated, only obstructed by local barriers. These have no physiological adaptation to lessen the weight of the pelvic contents, which is evidently the same with and without so-called supports. Even though the fibers forming the organs within the pelvis should, by massage or any other means, become increased in tenacity and contractile power, no *sustaining* power is assured thereby, because of want of mechanical relationship. To expect the uterus, ovaries, and tubes to hold themselves up through an exertion of their own intrinsic mechanical power is like inviting a man to lift himself over a fence by the straps of his boots.

Divulsion of morbidly adhering parts is said by Brandt to be achieved by his system of "massage." Does this strenuous result give the least assurance of removal or even abatement of morbid continuous contact? Or that the same consequence from the same cause is not imminent? So, too, mechanical straightening of an incurved uterus, removal of cervical stenosis, and the crowding into place of a fugitive ovary are but temporary expedients, and, however frequently repeated, can in no degree diminish the erratic tendencies and habits of these respective parts. The unsubjugated organs will continue to manifest mechanical improprieties, will stray in forbidden directions, and get themselves figuratively ground between upper and nether millstones. The simple fact that there is no room above, or in any other location than that assumed, is strangely overlooked.

Similar difficulties are encountered in attempts to correct morbid conditions affecting the substance of the pelvic contents. We may pertinently inquire, Whence the excess, both solid and fluid, of materials which, more than any other single fact, characterizes the morbid state of these parts in its inception, development, and differentiation? Is quality as well as position independent of exterior influences, that its aberration should permit of remedies essentially local in their effects? Do gentle "squeezing," "malaxation," dexterous manipulating, and frequent coaxing of the generative intestine in some inexplicable and mysterious way engage the collateral circulation, and so open thereto a broader and more active connection? Are the chemical qualities of the local ingredients (always suspicious in disease) greatly improved by local massage? If so, what prevents immediate return of degeneration on suspending the fructifying agent?

Above all, are the means in question effective for, or do they even conduce to, a substantial and permanent re-enforcement of the vito-mechanical processes engaged in the normal return from the pelvic organs of their venous blood, and with it all ingredients whose prolonged presence is unwholesome?

But a fair estimate of the difficulties in the way of the Brandt system, and of other systems having similar purposes and limitations, does not end by proposing negations. We should note the injuries, positive and probable, which they are capable of inflicting; for, though healthy organs may not directly suffer from the processes described by Brandt, it must be admitted that the frequent repetition of such handling might prove rather rough for those in an unhealthy condition. The thinned walls of the distended capillaries, which have lost their contractility and bear but a slow and turgid stream, are not able to resist forcible mechanical impressions. Only such motor causes as operate *at* and *beyond* the venous outlets of the local vessels can be mechanically advantageous. Local massage can not extend its influence in any effective degree to the point where, if anywhere, it is required. Inferior degrees of the process are supererogatory or injurious, for renewal of local fluids and local nutrition necessarily depends on the facility of the venous exit. The tendency to deterioration of the pent-up local fluids can not be averted by merely local measures, however deftly applied.

Other difficulties inhere in the local plan under consideration. Whether such treatment be regarded as affording local stimulation, incitation, sedation, or other nominal effects, the production of these theoretical benefits is by no means the limit of its influence. Other effects, counter to those desired, inflicting far-reaching evil consequences, are necessary coincidents, not only defeating the main purpose, but even adding new pathological consequences; for the therapeutic plan described is a direct means of introducing and establishing new but unwholesome relations between the local parts and the organism at large, the reverse of those which obtain in health. The pelvis becomes a focus or center of the consciousness toward which the feelings and thoughts converge, in due response to physiological impressions. The pelvic organs are also resolved into a point toward which the circulation becomes actively directed, in further response to the same law. The local sensations and the local blood suffer morbid increase, and no counteracting influence accompanies these effects. This morbid action is maintained by the frequent repetitions of the local remedy which is usually demanded, and is therefore liable to become permanent. Even the most healthy pelvic organs can not long resist the disease-producing influences to which these parts are not infrequently subjected in disease.

The advocates of local massage usually insist on the coincident use of specialized, prescribed exercises, adapted to further the effects and to correct the deficiencies of massage alone. But, however elaborate and complicated these subsidiary processes may be, they fail to afford any suggestion as to the fundamental and continually operating sources of this class of affections, and little relevancy is apparent between the processes prescribed and the morbid conditions to be combated. Besides, the invalids suffering pelvic troubles are usually disabled, and therefore often incapable of voluntary action, and, as is well known, are liable to injury from volitional activities. All consideration for this class is, by the scheme referred to, omitted.

These difficulties are insignificant in comparison with the *misdirection* of the medical purpose and medical endeavor incident to the Brandt system; for pelvic affections of the ordinary chronic description are not self-produced and self-sustained or independent, but, from beginning to end, depend on adequate causes. These are the primary factors; the manipulation is secondary thereto and dependent thereon. The remedy under discussion is directed to the *secondary* factor; to *consequences* in place of *causes*; to subordinate features and evidences, while the potential and continuously operating sources on which these depend are quite omitted from consideration and remain unremedied. Pelvic affections, whatever their form of manifestation and however aggressive their symptoms, have their potentiality in their sources. These sources should therefore become the chief object of medical solicitude, for remedies directed either to morbid location of the pelvic organs, to the tangible and ocular evidences of disease, to the local pain, or to all of these combined, may be powerless to reach the sources of these symptoms. There is, in general, a marked disparity between the immediate effects and the ultimate consequences of remedies employed on this principle. It is unreasonable to expect radical effects of the restorative order from remedies whose scope is thus restricted.

The full force of these statements appears only when the mechanico-physiology of the pelvis and its important organs become well understood. The location and the condition of these organs are dominated by environment to such a degree at least as to determine the state of their health, whether good or ill. The contents of the pelvis may be displaced in whole or in part by causes having their seat in the environment of these organs, and performing the function of sustentation, and not otherwise. Other ill manifestations have a similar source. These exist by reason of their nurture from environment, and necessarily disappear when their sources are removed.

The importance of environment is tacitly conceded whenever pessaries are thrust under and between the pelvic contents; and in a very odd way when the trunk space is diminished by a tight exterior band—both under the mistaken idea that the pelvic contents, in opposition to mechanical laws and common sense, may in these ways be urged upward. The first condition for securing an improved location for pelvic contents, or any of the parts thereof, is to provide space therefor. The same remark applies with equal force to deformities of these organs—such as retroflexion, and even stenosis.

The nature of the mechanism and the forces which at any time control the pelvic contents, solid and fluid—in other words, the pelvic environment—may be briefly shown. The lateral walls of the pelvis are bony, fixed, and not subject to change of any kind. In the inferior direction are the vagina, practically open and unresisting, and the perinæum, of only slight mechanical stability. These together are quite incapable of resisting any continuous impinging force; they, in fact, yield on moderate pressure. The only remaining boundary is the superior—that opposed to the inferior boundary of the abdomen. This boundary is nominal and does not exist as a practical fact, for the pelvic cavity is mechanically continuous with that of the abdomen; the two designations relate to parts of the one cavity of the trunk. The two classes of viscera, the abdominal or digestive and the pelvic, are in practical contact. And, as before intimated, the superimposed portions, by their facile glidings, turnings, wedgings, and insinuating moldings to the presenting irregularities of the pelvic contents, exercise a force on the latter which, when morbid, is shown in symptoms pertaining to the inferior and dominated parts. The dominating force is healthful or otherwise, according to circumstances. The nature of this force is made clear by a single suggestion.

If the abdominal mass be suddenly raised, say to the extent of an inch, does any one suppose that a vacuum would be caused in that perpendicular space as broad as the pelvic diameter? By no means. Any one understanding the action of a pump knows that an upward force is exerted on the *inferior parts* to a degree far in excess of that required to raise them into the occupancy of such space. The force in this way rendered active is, indeed, practically irresistible. The pelvic contents may therefore be easily and certainly controlled as to location by mechanical causes and conditions whose location is *above*, not below them.

This statement of physiological fact is undoubted as relates to health; that is, for all except the suffering class. The loss of health of the pelvic organs is therefore evidence of defects of the mechanico-physiological function whereby sustentation is naturally maintained. The restoration of such function is the *only actual* remedy possible, since other morbid phenomena are mainly derivative, secondary, and incapable of existence, except on condition of the defects described.

For those who have had no practical experience in rendering available for remedial purposes the source of power now referred to, further elucidation of the principles brought into action may be needful. It will be noted that spontaneous, constant fluctuations of the capacity of the cavity of the trunk characterize all animals, from man down, including all species. These fluctuations of space, produced by changes of exterior boundaries of the included space, are rhythmic, and synchronous with inspiration and expiration of a corresponding amount of air. These fluctuations do not cause interior vacant spaces, but measure the fifteen to thirty cubic inches of air to which they correspond. Not one fifth of the trunk capacity for fluctuation is usually called into use; there is hence an *enormous reserve* of mechanical capacity and of the forces which control it. In birds the mechanico-anatomical conditions are such that the exterior fluctuation is almost wholly at the posterior part of the trunk, the portion corresponding to the perinæum in other animals. In quadrupeds the lower abdomen, including the pelvis, which is an offset from the abdominal cavity, engages in the constant rhythmic fluctuations. This is very obvious when the creature is at rest or in moderate exercise. The whole trunk engages in increasing the amount of fluctuations of the space it includes when under the stress of vigorous exercise. In neither case are these fluctuations limited to the chest.

The location of the fluctuating area, and consequently of adjacent interior parts, is easily seen to be different in the persons of women suffering from pelvic diseases, pelvic malpositions, in all ruptured persons, and in those liable to fall under these categories. In these cases the rhythmic movements of exterior fluctuation of the walls of the trunk are both restricted and perverted. The most casual observation shows that in all examples of either of these cases there is little if any movement of the inferior portion of the walls of the trunk. The non-fluctuating area includes the lower abdomen, and consequently the pelvic space, which is a mechanical offset therefrom.

The respiratory rhythm and fluctuation of trunk-space is, in pelvic diseases, morbidly restricted to the upper portion of the trunk. It fails to extend through the mass of its contents, and to include the pelvic viscera. But few of the muscles normally adapted to that use engage in the act. The lower abdominal and the pelvic contents are left motionless, while the restricted movements are morbidly transferred to the opposite extremity of the common cavity—that is, to the apex of the chest.

The above-described perversion and restriction of the natural and necessary action of the organic mechanism entail the disadvantages which result in morbid position and morbid phenomena.

The fluctuations of space within the cavity of the trunk bear a close resemblance to the action of a pump, and may be described as a continuous *lift*. All organs within the cavity of the pelvis are subjected to this lifting force. It affords sustentation to these organs and maintains wholesome mechanical interrelations between them. *As long as this act supplies due and constant upward tension, malposition and deformity can not exist.* The remedy for morbid location of the pelvic contents is hence to supply the upward tension which is naturally due them.

But it is not enough that sustaining energy be supplied to the contents of the pelvis. There is practically no vacant space into which the pelvic contents can possibly ascend till such space is provided. The uterus and ovaries can not be impelled by physical force into preoccupied locations. They will pass into such positions only in proportion as the parts above them recede. No other force is required.

It follows that the sustaining force, to effect the desired purpose, must extend equally to the abdominal contents; in fact, the efficient sustentation reaches the pelvic contents *through* the abdominal. The whole mass of the common cavity engages in the fluctuating motion superinduced by the muscular walls of the trunk.

The natural, incessant, mechanical fluctuations of the walls of the trunk at their inferior boundary, as above described and as witnessed in the lower animals and the healthy of the human species, have a further physiological purpose not less important than that above shown. By this mechanical action a constant and perfect *drainage* of the pelvic contents is secured. It is in vain to expect the return of health in these parts while the return circulation is imperfect and obstructed.

The venous blood, and indeed all excess of local interstitial as well as vascular fluids, are, by the means described, returned to the general system. The influence of the same vito-mechanical acts extends to whatever morbid ingredients these fluids may bear. The return circulation from both the head and the pelvis is secured by essentially the same mechanism. Neither part has control of its own venous contents; these in both cases are dominated by mechanism at a distance, urging the whole venous mass of blood toward the common center. The mechanical influence extends, when its degree is normal and healthy, to the remotest capillaries, and maintains them clear of obstructions.

The mechanico-physiological facts above set forth, so far from being obscure and open to question, are, on the contrary, patent to all observers. They are too common and well known and universally accepted to invite opposition or even attention. Their acceptance, however, affords a complete rationale of the mechanical control of the pelvic mass and parts and of the pelvic fluids. The action of this mechanism is functional; it extends to and is unequivocally connected with the cavity of the pelvis. The function described maintains the position of the organs of the pelvis as a mass and as separate parts. It also maintains the nutritive activities of the same organs by withdrawing their venous circulation, which is the indispensable condition for admission of the arterial. The conclusion is irresistible that defects of this raising and sustaining function result in defects of position—that is, malposition of parts; and that defects of local nutrition, through lack of insufficient change of local fluids, inevitably result in nutritive perversion, or its synonym, disease.

It is not difficult to understand the commanding therapeutic value of the physiological facts and principles above explained. But persons with only the slight acquaintance with them here afforded, and no experience adapted to confirm them, may be forgiven if they harbor some doubt until such facts and principles have been verified, if possible, through personal experience and by adequate tests. The mechanico-physiological function brought to view is practically identical with that of respiration, and consequently beyond question. What the inquirer wants to know is whether the power and the scope of the organic mechanism extend in fact to the interior of the pelvis; and whether, if this be the case, such power is both adapted and adequate to control the position and the condition of the pelvic organs; and whether such control is capable of transforming the pathological into a physiological state. It is further desirable to know whether these principles are susceptible of being carried out, proved, and confirmed by actual practicable processes, which effectually raise to and sustain in natural position the previously depressed deformed parts fixed by morbid, perhaps old, adhesions. It is, again, of the utmost consequence to learn whether the pent-up, restrained, deteriorating fluid contents of these local parts may be sent freely along their natural channels and become submitted, with that of all parts, to the powerful chemistry of the whole organism. *To all such inquiries I give an emphatic affirmative reply.*

Many experienced physicians join me in this affirmation. They have reduced to successful every-day practice the principles herein set forth, and with most unalloyed satisfaction. They have found their former methods in great degree superseded, substituted by those more radical and permanent. As for myself, after being well trained in the ways of the brightest and best of the lights of gynæcology, now departed forever, these ways and methods were gradually displaced by those arising from a broader consideration of physiological facts. The mechanico physiological methods, as they developed, proved to be both speedy and positive as well as permanent in their effects. My personal tests of the merit of the principles here presented extend over thirty years, and include the severest and least curable forms of cases not remedied, and often irremediable, by any less direct and thorough curative methods.

To assist the inquirer to a more vivid and comprehensive estimate of the mechanico-physiological methods for pelvic affections, I may be indulged in making a further exposition of them. Not only is the pelvic cavity at the base, and in one sense a part of the abdominal cavity, but its walls may easily be conceived as being extended on all sides so as to be continuous with and include those of the base of the abdomen. Being therefore sections of the same parts, they are necessarily subject to the same laws and functions.

It will be seen that the extension to which attention is now invited includes the region of *hernia*. An analogy between hernia and pelvic affections becomes evident on due reflection. The intestine or omentum in the protruded sac parallels the morbid descent of the pelvic contents. The two are, in fact, quite the same, the pelvic organs obscuring the misplacement of the overlying intestines. Both are consequences of unsustained weight of digestive organs. In the one case an artificial receptacle is formed by violent distension of a portion of the wall; in the other case the receptacle is ready-formed and natural. Both are parts of the same peritonæum.

Hernia occurs at points of least resistance. So does prolapse of pelvic organs. Hernial protrusion is caused by *persistent* pressure of a knuckle of intestine, due to immobility of the abdominal mass; prolapse of the contents of the pelvic cavity has the same antecedent condition. Strangulation of hernia results from defective communication between the contents of the sac and those of the abdomen; chronic disease of the pelvic organs betokens a similar lack. The very narrow neck of hernia renders the obstruction more complete and the symptoms more acute than is incident to the pelvic superior opening.

The nature of the mechanical problem presented in both strangulation of hernia and the suffering pelvic contents may now be separated from other considerations, and the remedial needs may thereby be better understood. The problem is not what it is ordinarily assumed to be. It is *not* a problem of mechanical pushing in and holding up of merely the insignificant amount of obtrusive flesh, but of restoring pre-existing physiological and mechanico physiological connections—of re-establishing normal relations of parts, all of which are within the peritonæum.

Defect of those spontaneous organic motions which inhere in all healthy animals during life is the potential factor or cause in both classes of cases. The *restoration* of the normal degree and form of the same actions is the indispensable condition of cure; and for this there can, in the nature of things, be no complete remedial substitute.

This spontaneous organic motion is subject to augmentation as well as restriction. The former is remedial, as the latter is the opposite. Through artificial devices and methods the fluctuation of capacity of the trunk may be enormously increased. The power which urges upward the contents of the trunk, including those of the pelvis, then becomes very much in excess of what is required to draw up the retroflexed uterus, to divulse adhering parts, and to return the escaped, strangulated intestine to the abdominal cavity, in spite of the size it may have acquired and the resistance of the canal through which it must repass. Should the reader desire the practical data, enabling him to verify the above statements, he will be provided with such in the form of a monograph (gratuitously) by making application at 71 East Fifty-ninth Street, New York.

The fact that pelvic affections of women are usually very slowly acquired and chronic does not affect the nature of the essential defect, or the nature of the means adapted to effect their removal. This fact only emphasizes the necessity of *cultivation* of the defective power to raise it to the desired standard. Remedial attention bestowed on subordinate factors or consequences of the initial defect are necessarily incapable of reaching the dominating factor. The propriety of this class of remedies, mainly palliative, is subject to the judgment of the physician.

To aid the inquirers to greater familiarity with the principles of the mechanical order involved in hernia and ill conditions of the pelvic organs, I will point out further mechanical analogies. The walls of the cavity of the trunk may be represented by the bulb of a common syringe. An indentation by the fingers of such a bulb excludes its fluid contents to an extent equal to the indentation. The removal of the pressure allows the force residing in the instrument to draw up the contents of the pipe or neck. If the bulb has a very thin, unresisting area, a defect near its neck, that area would bulge out on compression of other parts, especially if the pipe be obstructed; the same area would, by its oscillations, indicate all variations of degree of compression. No one would doubt but that all these changes of form would exactly indicate and be due to corresponding changes in the motor source, which in this case is the changing pressure of the fingers and the contents of the cavity. The outward impulsion of the thinned part of the bulb practically removes undue pressure from the whole remaining interior. So, too, when removal of pressure of the fingers allows the elastic force to assert itself, such force becomes manifest only at the protruded part, which is drawn in to the same extent and by the same force as caused the outward protrusion.

Let, now, this weakened and yielding portion of the bulb be conceived as so changed in shape as to constitute a true sac and neck. It will be readily admitted that it is still a part of the common cavity, and that the force, which for convenience rather than accuracy may be called suction, extends to the fluids contained within this branching sac, through its neck, in precisely the same degree as though there were *no* neck. Moreover, this point offering no resistance, the whole motor energy and motor effect of the elastic bulb is manifested here; and should the pipe be closed, the extended portion of wall would instantly be sucked in—returned. We may next conceive the transverse area of the neck and its communication with the sac as being indefinitely small—less than the diameter of the finest needle. This supposition would make no difference with the nature, or the amount, or the direction of the forces engaged, or with the effect of suction on the fluid contents. There is still a communication between the sac and the abdominal cavity by means of and through the *wet* tissues, even in the absence of pervious vessels. The least difference of pressure in the two cavities causes transfer of fluid *inward*, as previously it did *outward*. Strangulation does not obliterate, but only obstructs communication, and indicates the immediate need of reversing its direction. The moment the experimenter applies this fact to practice he obtains direct evidence, through sight and touch, by the cessation of vomiting and of pain, that transfer of fluids is progressing. The observer will remark the very insignificant amount of solids in the sac after drainage of its fluids and the ease with which these slip back through the neck, however tortuous its cause or sharp the constricting pillars.

Hernial cases, which are more visible, tangible, and im minent than those appertaining to the pelvis, demonstrate more clearly the actuality, and even the great excess, of uplifting force, easily and quickly available, and that the usual obstacles are insufficient to resist its remedial efficacy. But *pelvic* cases, in which malposition is symbolized by hernial protrusion, and ill-condition by strangulation, are in general very chronic. This fact, to a certain extent, modifies the purpose of the remedy. An adequate uplifting and suction force is still demanded; but there is also required such increase of the natural mechanico-physiological powers which produce these effects as can be secured only by due cultivation of the instruments of this force. Nothing less is worthy the name of "cure" in these classes of cases.

The mechanico-physiological and the mechanico-pathological relations of the contents of the female pelvis will now admit of distinct and intelligible statement.

No distinct mechanical supports of the contents of the pelvis exist in anatomy, and none are required. Malpositions and ill-conditions do not occur in consequence of such deficiency, nor can local ill-conditions of the pelvic contents be rectified by an artificial supply.

The "strengthening" of the pelvic organs, were this possible, by local massage, or remedies having a similar purpose, can not, in the nature of things, reach the *sources* of the local manifestations, which exist in environments, and alone are, therefore, incapable of securing permanent results.

Sustentation of the contents of the female pelvis is, on the contrary, *functional* and *automatic*. It does not reside in or appertain to the sustained organs, but exists in their environment. The same physiological facts have equal application to conditions as well as positions. Both are dominated by forces exterior to the organs imperiled.

The amount of mechanical force latent in the mechanism of the organism is greatly in excess of that needed for restoring natural and desirable position of pelvic organs. To convert the *available* into *sustained* and *constant* force adapted to the same uses requires due cultivation of the instruments of such force by art.

The remedial aim in these cases should be to restore the natural degree of fluctuation of space in the cavity of the trunk; to secure this fluctuation of space at the *inferior portion of this cavity*. This necessarily causes its diminution at the opposite or upper end of the same cavity; a transfer of the involuntary organic act from the top to the bottom of the common trunk cavity. Medication unrelated to this purpose is proper to the extent that local palliative medication is legitimate.

WHAT IS ACCOMPLISHED BY THE USE OF DIGITALIS IN CARDIAC DISEASE?*

By EGBERT LE FEVRE, M. D.

In bringing before you to-night this well-worn topic I feel almost like offering an apology. Still, at times it seems necessary to review the grounds of our beliefs, and have clearly fixed the limitations of the power of the different remedies to combat the effects of organic diseases.

The heart is an organ whose parenchyma consists of the peculiar fibers that have the characteristics of both striped and involuntary muscles, and the function of the organ is to propel the blood through the systems over which it presides. The muscular fiber may be diseased or the mechanism may be altered, but, until the heart is unable to so distribute the blood as to meet the requirements of the system at large, the patient is, in a great majority of cases, ignorant of any morbid process.

In common with all muscular tissue, that of the heart has the inherent tendency to increase in size and strength when the work that it is called upon to do is increased. That this compensating hypertrophy may occur, the nervous mechanism of the heart must be adequate, and the quantity and quality of nutritive fluid equal to the increased demands. In cardiac diseases this conservative process is the one thing to be desired, and, when obtained, to be guarded and kept to the point where the heart is able to so perform its function as to meet the fastidious and exacting demands of the organism.

To understand the action of digitalis in cardiac diseases, it is necessary to observe its effects upon the normal heart. When given in physiological doses, it increases the force and completeness of the ventricular contractions; a larger blood-wave is thrown into the vessels, while the number of beats per unit of time is lessened. If the doses are increased, "the systole becomes abnormally energetic, so that the ventricles become white as the last drop of blood is squeezed out of them," and the heart during diastole does not dilate uniformly, the contracted portions showing as white patches. Two theories have been advanced to account for the slowing of the heart by digitalis. According to the mechanical theory, the heart contracting more completely, a larger amount of blood is thrown into the aorta and pulmonary artery at each beat. As the escape of blood through the capillaries is not proportionally increased, with the subsequent heightening of the resistance in these vessels, each wave demands more power to force it from the ventricles, and the heart is slowed in accordance with the physical law. What is gained in power is lost in speed. If this was the true explanation, "then the curve of the sphygmographic tracing would be: Ascent very oblique, height of curve small, and line of descent very oblique also." The direct opposite of this occurs.

The advocates of the other theory claim that it exerts an inhibitory action on the heart through some portion of the nervous system. The experiments of Boehm, Dybkowsky,

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Peliken, and Ackerman prove that it is not through the pneumogastrics nor the spinal cord, as the heart was slowed by its use after the destruction of the cord and the division of the vagi or the paralyzing of their peripheral ends by atropine.

Wood has concisely stated the status of our present knowledge: "Digitalis in moderate doses stimulates the musculo-motor portion of the heart (probably its contained ganglia), increases the activity of its inhibitory apparatus, and causes contraction of the arterioles, probably by an action on the vaso-motor centers in the cord."

Does digitalis exert any influence upon those nutritive changes that produce hypertrophy or cause its restoration when the compensation has been ruptured? It was formerly supposed that the semilunar valves closed the openings of the coronary arteries, so that they were filled during diastole only. This has been disproved. The flow of blood in these arteries is increased in common with that in the systemic circulation by the augmented power of the systole. During diastole, the greater the arterial tension in the aorta the more rapid is the flow of blood through the cardiac blood-vessels, and the nutrition of the heart is proportionally increased. One of the most noted effects of digitalis is its influence in raising the blood pressure in the aorta.

"The branches and capillaries of the coronary arteries lie within the layers of the muscular fibers and are surrounded by primitive bundles of fibers, while the lymphatics lie between the layers." This peculiar arrangement has an important bearing on the nutrition of the cardiac muscle. Digitalis, by its action on the musculo-motor portion of the heart, causes a more complete contraction of these encircling fibers, forcing the blood into the veins and accelerating the extravascular circulation, producing nutritive changes analogous to those of the faradaic current on voluntary muscles.

Important as the above-mentioned factors are, the power of digitalis over cardiac nutrition can only be explained by the theory that it acts on the trophic centers and nerves, placing, as it were, the cardiac muscle fiber in a condition to appropriate the elements of the blood needed for its growth.

When the valvular mechanism is deranged the heart adapts itself to the change by the corresponding increase in power of those parts whose work is increased. The prognosis and treatment of valvular lesions depend on the orifice affected, the character and extent of the lesion, and especially on the effect that the modification in the movement of blood through the heart has on the *work* and *nutrition* of the entire cardiac muscle. Each lesion of the valves adds its own peculiar factor to the problem. In mitral stenosis without insufficiency there is rarely dilatation of the cavity of the auricle, as the pressure in the pulmonary veins is not sufficient to produce overdistension during diastole, even when the cavity is not thoroughly emptied during systole. Consequently, the primary result of this lesion is simple hypertrophy.

As long as the auricle is able to empty itself through the narrowed orifice, there is no interference with the pulmonary circulation, as regurgitation into the pulmonary veins is prevented by the auricular systole beginning in the circular bands which surround the mouths of the veins. It is only when the auricle is unable to empty itself that pulmonary engorgement is produced. In simple mitral stenosis there is no hypertrophy of the left ventricle. Until the hypertrophy fails to compensate there is no indication for the use of digitalis. Some have advocated the use of digitalis in this lesion on the theory that its inhibitory action allows the auricle more time to empty itself.

In mitral insufficiency the regurgitant current is forced into the distensible auricle with a pressure equal to the power of the ventricle. This, together with the blood poured in from the pulmonary veins, causes primary dilatation with coincident hypertrophy of the auricle. On account of the increased capacity of the auricle, there is forced into the ventricle an amount of blood sufficient to overdistend its cavity and add to its work in emptying itself; as a result, hypertrophy follows. The extent of ventricular hypertrophy, and whether or not it is accompanied by dilatation, determines the seriousness of the valvular lesion. The most important factor of mitral insufficiency is its effects on the pulmonary circulation and right heart. The blood that regurgitates through the mitral orifice, by partially filling the cavity of the auricle, prevents the emptying of the pulmonary veins. As a result, the tension in the pulmonary artery is raised, and more power is needed by the right ventricle to empty itself. To meet this demand the muscle hypertrophies, the pulmonary circulation is restored, and the mitral lesion is compensated for as long as the power of the right ventricle is sufficient.

When the compensation ceases, the failure is shown first by interference with the pulmonary circulation, and then by dilatation of the right ventricular cavity. If the dilatation is so great that the tricuspid valves can not close the auriculo-ventricular orifice, regurgitation follows, with retarded venous circulation, while at the same time the left ventricle is imperfectly filled and pressure in the aorta falls.

Digitalis can not cure the organic lesion of the mitral valves that causes these changes. When the work of the right ventricle is further increased by some intercurrent pulmonary disease—as bronchitis—digitalis, by its tonic action, aids the heart to meet the emergency. When the burden has become too great and dilatation is present, digitalis, by increasing the power of the ventricular contraction, restores for the time being the pulmonary circulation, and, by diminishing the relaxation of the cavities, the tricuspid valves again become sufficient to close the orifice. For these beneficial results to become permanent, the muscle of the right heart must again hypertrophy enough to recompensate the mitral lesion, plus the dilatation of the right ventricular cavity. Digitalis aids in this, but, above all, the nutrient fluid must be in quantity and quality sufficient for the increased demands of the enlarged muscle.

Uncomplicated aortic stenosis does not call for digitalis until the power of the ventricle fails. This is shown by an irregular action of the heart—an imperfect filling of the aorta, often accompanied by a mitral systolic murmur, which shows that dilatation of the ventricle has occurred and the auriculo-ventricular orifice has been stretched to such a degree that the valves are insufficient. Digitalis must be given to restore the tone of the muscle. It must be carried far enough, if possible, to bring the size of the cavity to the point where the mitral valves will again close the orifice.

In aortic regurgitation the conditions differ from lesions at other valves. Normally the left ventricle at each contraction forces its contents into the aorta against a pressure of 250 mm. of mercury. In insufficiency of the aortic valves with diastole the blood is forced back into the relaxed and distensible ventricle with a pressure equal to a column of blood 3·21 metres in height. This, according to Pascal's law, exerts a dilating pressure on the entire ventricular wall. The size of the opening determines the rapidity with which the pressure in the aorta and that in the ventricle become equal. As the capacity of the auricle equals that of the ventricle, at the auricular systole six ounces of blood are forced by the hypertrophied auricle into the already filled ventricle. When the leak at the aortic orifice is at first small in amount, then coincident with the dilatation occurs the compensating hypertrophy, which, when perfect, counteracts the distending tendency of the two streams of blood. When the insufficiency occurs suddenly, or when the compensation is incomplete, then the hydrostatic pressure of the regurgitant stream soon overcomes the resistance of the muscle and produces so great a dilatation that the mitral valves become incompetent temporarily, relieving during systole the overburdened ventricle.

In this lesion there is constant danger of death from sudden dilatation and syncope. The safety of the patient depends upon the ability of the heart to maintain its hypertrophy. The lowering of the pressure in the aorta has a deleterious effect upon the circulation in the coronary arteries, so that there is in addition the danger of degeneration in the heart muscle itself from malnutrition.

Many writers maintain that it is dangerous to give digitalis in aortic regurgitation, as the tendency to death from syncope is increased by the lengthening of the diastole and the consequent increase in the amount of regurgitation. If digitalis merely slowed the heart, the objection would hold good; but with its inhibitory action it also has the power to delay the relaxation of the cardiac muscle, especially during the first part of diastole. It is this power which exerts control over the dilating pressure of the regurgitant stream and, by maintaining for a longer time the pressure in the aorta, increases the blood-supply of the cardiac muscle. In aortic regurgitation the dose must be as small as possible in order to obtain the desired therapeutic effect.

In treating the degenerations of the cardiac muscle independent of valvular disease two things are to be considered: 1st, to lighten the work of the heart; 2d, to increase its nutrition. Digitalis in these cases not only acts as a stimulant to temporarily arrest the failure of the degenerated muscles, but also produces nutritive changes. At the same time, by the action of the drug upon the blood-vessels, the tension in the aorta is raised and the work of the heart is increased. This can be counteracted, to a certain degree, by the use of the vaso-motor dilators.

In the cardiac dilatation which follows the hypertrophy caused by renal and arterial diseases, digitalis must be given with extreme caution, for, by its power to raise the blood pressure, rupture of a diseased artery (especially in the brain) may be induced. Although dilatation is usually the result of valvular lesions, or dependent on one or the other form of degeneration of the myocardium, still cases are constantly occurring which, in their auscultatory signs, simulate those of organic causation. They occur in those cases attended by extreme muscular debility and relaxation. The murmurs heard in the mitral area are due to imperfect or rregular contractions of the ventricle, which allow a temporary insufficiency of the mitral valves; or, by the stretching of the papillary muscles and chordæ tendineæ, the valves are carried too far into the auricle, an audible regurgitation being produced. Digitalis, by its tonic and trophic action, causes the murmurs to disappear, and, with good blood, may be said to cure the disease.

The beneficial effect of digitalis in that condition known as "irritable heart" may be explained by its power to strengthen the musculo-motor apparatus and render it less susceptible to reflex irritations.

TESTS FOR SUGAR IN THE URINE.*

By BRANDRETH SYMONDS, A.M., M.D.

In opening this discussion, the methods by which we detect the presence of glucose in the urine must first be considered, for it is upon the delicacy and accuracy of our tests that the value of our clinical investigations will depend. Nearly all the tests for glucose depend upon its property of abstracting oxygen in the presence of an alkali. Among these reduction tests, so called, are Fehling's solution, Nylander's solution, indigo-carmine, picric acid, and safranin. This reducing action is by no means peculiar to glucose among the constituents of urine. Of normal ingredients, uric acid, creatinin, and pyrocatechin possess it, the first to a slight degree only. Among the bodies occasionally present in the urine may be mentioned oxybutyric acid; urochloralic acid, which is derived from chloral; glycuronic acid, from camphor; turpenoglycuronic acid, from turpentine; Marshall's glycosuric acid; and Kirke's uroleucic and uroxanthic acids. Besides these, many drugs form reducing substances during excretion, such as morphine, chloroform, salicylic acid, cubebs, copaiba, glycerin, hydroquinone, and carbolic acid. Of these substances, some have a limited range of reducing power, while others affect all the tests mentioned. Although these reduction tests may be nearly faultless in point of delicacy, it is evident from what has been said that their accuracy is not great. To take them up in detail:

1. *The Well-known Fehling's Solution.*—This possesses all the disadvantages of its class, being readily reduced by other substances than glucose. It has the further disadvantage of spoiling rapidly, although Schmiedeberg's modification, in which mannite is used instead of Rochelle salt,

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* Read before the Society of the Alumni of Bellevue Hospital at its first annual reunion.

is said to keep well. The ordinary solution has to be divided into two parts in order to prevent decomposition, and then mixed at the moment of using. This is certainly an awkward proceeding. On the score of delicacy it leaves hardly anything to be desired, as it will detect one twentieth per cent. of glucose in urine, though not very distinctly. In order to do this, the upper layers of the urine must be boiled and then a few drops of a proved sample of Fehling's solution are to be added. The upper layers are again boiled and the reduction occurs. It has been said that glucose is the only substance that will reduce Fehling's solution in the cold. This is certainly incorrect, for chloral will reduce it readily in the cold, and chloral is probably excreted in part as such.

2. *Nylander's Solution.* — This is a modification of Boettger's test and consists of 2 grammes of bismuth subnitrate and 4 of Rochelle salt, dissolved in 100 c. c. of a ten-per-cent. solution of sodium hydrate. On boiling with glucose, a dark-brown or black precipitate of metallic bismuth and bismuth suboxide is produced. It has the advantage over Fehling's solution of not spoiling. I have kept it in an ordinary colorless bottle exposed to sun and air during several of the hot months without any discoverable alteration. It is not so readily reduced as Fehling's solution, not being affected by chloral, pyrocatechin, or glycosuric acid. It is, however, less delicate than Fehling's solution, detecting only one tenth per cent. of glucose, and that imperfectly. The most delicate method of applying the test is to fill a test-tube about half full of urine and then add about one third of the solution. Boil the upper layers and note the reduction. Although less delicate than Fehling's, it is the only one of the reduction tests which I constantly employ. It is less cumbersome and gives results which are, I think, sufficiently good for ordinary clinical work. It is occasionally reduced by other substances than glucose. It is reduced by glucose in the cold, and also by normal urine.

3. An alkaline solution of indigo-carmine when boiled with glucose becomes decolorized, changing from blue to purple, then red, and finally yellow. This play of colors is due to deoxidation, and they can be restored in the inverse order by shaking the solution with the air and thus obtaining oxygen. The alkali used must not be caustic, for both potassic and sodic hydrate change the color without the aid of glucose. The one commonly used is sodic carbonate. This test will readily detect very small quantities of glucose, but, unfortunately, is reduced by prolonged boiling with perfectly normal urine. Oliver maintains that it is perfectly reliable, but also says that urine normally contains half a grain of glucose to the ounce, or one tenth of one per cent., which can safely be denied.

4. The same objection applies to picric acid, which, when boiled with glucose and an alkali, is reduced to the dark-red picramic acid. This red color occurs also with normal urine, the creatinin which is regularly present being sufficient to develop it. On the score of both accuracy and delicacy, this test must be laid aside.

5. With safranin I have not had much experience. In the presence of glucose and an alkali the red color is changed into a dirty white. This alteration is produced likewise by prolonged boiling with albumin, though normal urine does not cause it. Whether it would be produced by glycosuric acid or some of the other reducing substances occasionally present in the urine I can not say. As it is a reduction test it seems reasonable to suppose that the change would occur. It is quite delicate, readily indicating one tenth per cent. of glucose.

6. In this class must be placed, I think, Molisch's test with alpha-naphthol or thymol. Into 2 or 3 c. c. of urine are put three or four drops of a twenty-per-cent. solution of alpha-naphthol in alcohol. Sulphuric acid is then added to an excess of three or four times the bulk. A beautiful violet color forms which, on large dilution with water, falls as a violet precipitate. If thymol is used instead of alpha-naphthol, a red color results, followed by a reddish precipitate. These colors and precipitates are readily produced in normal urine by this test, and Molisch of course states that normal urine contains sugar. In order to ascertain the worth of this method I took 2 c. c. of normal urine, which showed no reaction with phenylhydrazin, and obtained from it an abundant violet precipitate. I then took 2 c. c. of water containing one one-hundredth per cent. of glucose. On applying Molisch's method I obtained a violet precipitate about one fifth in amount of that obtained from normal urine. This, I think, is a crucial test and one that demonstrates the worthlessness of the method for clinical purposes. It is undoubtedly a delicate reaction for sugar, but it also reacts with other substances normally present in the urine.

All of these reduction tests have only a negative value, and for that some of them, such as Fehling's, can hardly be surpassed. Fehling's will indicate one twentieth per cent. of glucose, and I think we need nothing more delicate than that. But a positive result with any of them is valueless, since they can be so readily affected by other reducing substances than sugar which may be present in the urine. During the past year, as Examiner for the Mutual Life Insurance Company, of New York, I have had seven or eight cases in which Fehling's and Nylander's solutions were both reduced by urine, which urine, on subsequent examination by phenylhydrazin and by fermentation, was shown to be entirely free from sugar. I can recall one case in particular in which the reduction of Fehling's solution was equivalent to over one per cent. of glucose. Without further investigation these would doubtless have been regarded as cases of glycosuria, and on that ground would have been refused insurance. Frank Donaldson, Sr., has reported a more striking case, in which the precipitation of Fehling's solution was equivalent to over eight per cent. of glucose. Marshall subsequently examined the urine and isolated the reducing substance. This he called glycosuric acid, not because it has the remotest connection with glucose, but on account of the similarity of its action on Fehling's solution.

There are but two methods which give reliable positive results—fermentation and phenylhydrazin. In the former the urine is fermented and the carbon dioxide given off is collected and measured. A gramme of glucose when fermented will form about 250 c. c. of carbon dioxide at ordinary temperature and pressure. A very convenient apparatus for collecting and measuring this is Einhorn's tubes. As urine will absorb about its own volume of carbon dioxide, and as yeast always contains a little sugar, the method is not very delicate. I think that about the best that can be alleged for it is its ability to demonstrate one tenth per cent. of glucose. Another application of fermentation is by taking the specific gravity before and after fermenting. This is even less delicate than the preceding.

The other reliable positive method is by the phenylhydrazin test. This was first devised by Fischer, and has since been strongly indorsed by von Jaksch and Ultzmann. The original method of applying it was to dissolve 2 grammes of phenylhydrazin hydrochloride and 1·5 gramme of sodium acetate in 20 c. c. of water. Then mix with 50 c. c. of urine, and heat in a water-bath for twenty or thirty minutes. Ultzmann, as reported by Bond, has modified it in a very simple way. According to his method, put in an ordinary test-tube about half an inch of the phenyl salt. This is a brownish-white, scaly substance, having a strong odor of aniline. On top of this put another half-inch of sodium acetate, and fill the tube half full of urine. Shake until the sodium acetate is dissolved, and then gently heat. When the whole mass is hot, boil from half a minute to a minute. This method is much less cumbersome than the original, and is nearly if not quite as good. In both methods albumin, if present, should first be removed by boiling and filtering or decanting, as it forms a sediment which may mask the result. The result of these manipulations is the formation of phenylglucosazone, which crystallizes out and can be found in the precipitate. This is a definite chemical compound, having the formula $C_{18}H_{22}N_4O_4$. It forms acicular crystals of a golden-yellow color, which can easily be recognized under the microscope. They have a marked tendency to collect in radiating clusters, or in sprays that resemble a feather or a twig of spruce, or in sheaves like those of wheat. They are almost insoluble in water, but readily soluble in alcohol. They fuse at 204° to 205° C. Similar compounds are formed with lactose, galactose, and maltose. None of these, except lactose, occur in the urine. The fusing point of phenyllactosazone is 200° C.—so near that of phenylglucosazone that it is valueless for ordinary differentiation. But lactose occurs only in the urine of nursing women during acute suppression of lactation. Consequently its liability to interfere is very slight. Tyrosin forms somewhat similar clusters, but the crystals are colorless. I think it may safely be asserted that the crystals of phenylglucosazone are characteristic, and a positive indication of the presence of glucose. The limitation by lactose is so slight that it may usually be ignored. I have tried this method with a number of drugs which are excreted in the urine, and in no case have I obtained any similar formation. The list includes morphine, atropine, phenacetin, antipyrine, acetanilide, chloral, quinine, and chloroform. The presence of chloral is objectionable, because it forms an abundant precipitate of reddish-brown globules, which tends to mask the crystals of phenylglucosazone. These globules resemble those of phenylhydrazin, which are often found in the deposit, owing to an excess of the salt. They are freely soluble in alcohol, from which they redeposit on evaporation in the same form. As regards delicacy, this test can hardly be excelled. I have found distinct crystals in a urine which contained only one one-hundredth of one per cent. of glucose, but then only after standing for forty-eight hours. When glucose is present to the amount of one tenth per cent., the crystals can be seen within fifteen minutes after boiling by Ultzmann's method, but they are then quite small, and it is better to wait for half an hour. One twentieth per cent. can be discovered after standing three to four hours.

This method or fermentation should be employed in all cases where glycosuria is inferred from the examination of the urine alone. Otherwise we shall certainly be deceived at times by the behavior of other substances than glucose which give rise to similar reactions with the ordinary tests.

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A CASE OF
TREPHINING FOR PARALYSIS OF SPEECH FOLLOWING AN INJURY.

By J. D. JONES, M.D.,
UTICA, N. Y.

Although I have to preface the narration of the following case with the humiliating confession that I erred in the diagnosis, still I believe that enough may be learned from it to justify its publication. During this, which may be termed an era of special activity in brain surgery, I believe that not only the successful and brilliant results should be published, but the failures, and worse than failures—the fatal results—as well. It is only in that way that we can arrive at correct statistics of the mortality of the operation and gain correct data as to when to operate and when to leave alone. Judging from the cases published in the journals during the last two years, one would infer that the operation was almost devoid of danger and that the results are almost uniformly successful. A note published nine months or a year after the operation would often tell a different story. I propose to follow that plan in this instance.

Mary B., aged twenty-six, single, of healthy parentage, had enjoyed previous good health, but was of questionable morals, and occasionally drank to excess. After a three-days' absence from home on one of these sprees she was found in an outhouse in another part of the city, unable to speak or move, but conscious. She was carried to the city hospital, where, according to her mother, she had several convulsions limited to the right side. I first saw her October 16, 1889, at her home, about four days after the receipt of her injuries. Her condition then was as follows: She had complete motor paralysis of the right leg and arm, the right side of the face was paralyzed, the tongue deviated to the right, she felt the prick of a pin over the paralyzed area, but sensation did not seem to be very quick, though no very accurate tests were applied to determine the degree of impairment. She could not utter a word except "No," which was the universal answer to every question. She appeared to be rational and to understand everything that was said to her. Her pulse and temperature were normal, and remained so to the time of the operation. There was a large ecchymotic spot above and back of the left eye. There was no wound of the soft parts and no depression could be felt in the bone. There were "black and blue" marks on other parts of the body. There was a conclusive history of traumatism. That, with the location of the extravasation on the left side of the head, with the right-sided motor paralysis, and paralysis of speech, led to the diagnosis of pressure by a blood-clot, probably from a fracture of the inner table. She gradually recovered the use of the leg and arm, the former first, but, with the exception of the addition of "I can't" to her vocabulary, her speech remained unimproved. On two occasions she had attacks of transient delirium with hallucinations of sight, but they were not attended with any rise of temperature, and both subsided within twelve hours of their onset. She also had twitching of the right arm occasionally, which was controlled by small doses of bromide of potassium.

In the latter part of February, 1890, Dr. W. E. Ford, of this city, saw her in consultation with me, and agreed that the symptoms pointed to pressure on the center for speech and motor area on the left side by a clot probably, and advised an operation. Accordingly, the operation was performed on March 15th with the assistance of Dr. Ford, Dr. Schuyler, Dr. Weed, and Dr. Brown. The center for speech was located by the rules given by Dr. Dana in the *Medical Record* of January 12, 1889. The head was shaved and thoroughly disinfected. The skull was marked with the center-pin of the trephine before making the incision. A horseshoe flap, with the convexity directed downward and backward for drainage, was raised. An inch trephine was applied with the center-pin at the point previously marked on the bone. On removing the trephine after making a few quarter turns an alarming hæmorrhage took place from the hole made by the center-pin. We thought at the time that the screw had failed to hold the pin, allowing it to penetrate the bone prematurely and so wound a vessel in the dura. So the button of bone was hurriedly removed; the blood poured into the opening so freely that it was even then impossible to decide its source. The dura was opened, the finger introduced between the dura and pia, and the former pressed firmly against the skull; in that way the hæmorrhage was stopped. On subsequently examining the button of bone it was evident that the bleeding came from one of the large veins of the diploe, which had been pierced squarely by the center-pin, and it was the finger hooked over the mouth of this that checked the hæmorrhage. The pia mater was opened, but no clot was found. The brain tissue in this locality, however, was evidently diseased. There was no hæmorrhage of any moment from the dura or pia mater. As the brain tissue had been examined with the handle of the scalpel, no sutures were put in the coverings. They were simply adjusted. After all bleeding had been stopped, the wound was dusted with iodoform, a drainage-tube was introduced into the most dependent part, and the flap closed with interrupted silk sutures and an antiseptic dressing applied. She rallied well from the operation.

March 16th, A. M.—Pulse, 112; temperature (by the mouth), 99·5°. Vomiting freely from the ether. *P. M.*, pulse, 114; temperature, 100°; delirious.

17th, A. M.—Pulse, 120; temperature, 100°. Wound dressed. No discharge. It is evidently aseptic. *P. M.*, pulse, 112; temperature, 100°. She rested well during the day. Vomiting has ceased.

18th, A. M.—Pulse, 108; temperature, 100·2°. She was delirious during the latter part of the night. *P. M.*, pulse, 108; temperature, 100·2°.

19th, A. M.—Pulse, 102; temperature, 100·5°, highest temperature reached. Delirious during the night; appears dull this morning. Redressed the wound. No discharge. Removed the drainage-tube and introduced a twist of absorbent cotton soaked in a solution of bichloride (1 to 2,000) to keep the external opening patent. *P. M.*, pulse, 90; temperature, 99·5. Doing well.

20th.—Pulse, 88; temperature, 99·2°. Rested well last night.

21st.—Pulse, 84; temperature, 98·5°. During the night she had several convulsive seizures limited chiefly to the right side. In those I saw the twitching was confined to the right arm and right side of the face, but the right leg also was said to have been drawn up in some of them. The wound was redressed. The sutures were all removed, as it had healed firmly all around except where the drainage-tube had been. She was put on bromide of potassium (ten grains) repeated two or three times in the early evening.

22d.—She had one fit at eleven o'clock last night. Pulse, 90; temperature, 99·5°.

23d.—Pulse, 84; temperature, 98·8°. Doing well. She sat up to have her head dressed to-day.

24th.—Pulse, 90; temperature, 98·5°, and it remained normal after this. She looks bright. Her recovery has been uninterrupted since. By April 5th the opening for drainage had granulated even with the surface, and she was going about feeling well.

With regard to her speech. As I said before, her vocabulary was limited to "No" and "I can't," and she couldn't repeat a word spoken to her. I spent considerable time on various occasions trying to have her repeat some simple monosyllable. She would try hard for a while, then become irritable, and end with the invariable "No, I can't." On the third day after the operation she greeted me with "Good morning," and addressed me by name. She can now repeat any word spoken to her. She already has quite an extended vocabulary of names of articles of food, bedclothing, etc.—names she hears repeatedly and which she uses correctly. She also counts readily. I am unable to explain the connection between the operation and the improvement in speech, and simply relate the facts.

The most interesting point in connection with the case is the diagnosis. Was there any way of determining in this case whether the symptoms depended on pressure—as by a clot—external to the surface, or to a lesion of the cortex itself? We thought it was the former; it proved to be the latter.

Considering her age, with the history of an injury and with the ecchymosis in the position to explain the paralytic symptoms present, even in the absence of an external wound and such palpable evidence of fracture as depression, the presumption was certainly in favor of our interpretation of the symptoms, and the operation therefore was indicated and justifiable.

GIANT-CELLED SARCOMA OF THE FINGER OF UNUSUAL SIZE.*

By WILLIAM R. BALLOU, M. D.

The rarity of osteosarcoma of the fingers and the beautiful specimen which I will show with the patient from whom it was removed, led me to present the history of the following case:

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* Read before the Society of the Alumni of Bellevue Hospital, May 7, 1890, and the specimen and patient shown.

Mrs. L., Italian, aged twenty-nine, came under my care at Bellevue Dispensary on August 18, 1889, for the treatment of a large tumor of the left hand. The family history was negative, as was also that of syphilis or injury.

About a year and a half before, the first interphalangeal articulation of the left ring finger began to increase in size, but was not painful. From that time till the middle of July, one month before I saw her, it had remained of about the size of an English walnut, when it began to enlarge rapidly and developed spontaneous pain.

At the time she came under observation the tumor was nearly of the size of my closed fist, measured in its greatest circumference eleven inches, and involved the distal half of the left fourth metacarpal bone, the whole of the first and part of the second phalanges. The tip of the finger, as you see, projected from the mass of the tumor. It was generally hard, with some fluctuating areas which proved to be cystic in nature. The superficial veins were dilated and tortuous, and the growth had pushed the middle and little fingers widely apart, and interfered greatly with the use of the hand. Careful search failed to show any enlarged glands.

A diagnosis of chondrosarcoma was made, my belief being that it had at first been a chondroma of innocent form, which for some reason had taken on malignant action. Immediate amputation was advised, the operation to include the finger, its corresponding metacarpal bone, and other fingers if the growth was found to involve any other structures on dissection.

On August 20, 1889, the amputation was done under cocaine with the assistance of several of my students. The tumor was first freed from the surrounding structures and the metacarpal bone sawn through below the growth. The vessels were large and the hæmorrhage profuse. After their ligation the remainder of the metacarpal bone was removed with a *rongeur* forceps, a drainage-tube introduced, and the wound closed. It healed kindly, and a very comely and useful hand was the result. The tumor was kindly examined by my friend Dr. H. M. Biggs, of the Carnegie Laboratory, who pronounced it a beautiful specimen of giant-celled sarcoma springing from bone.

At the present time the patient is in good condition, has no pain, or the slightest suspicion of recurrence, and has almost perfect use of the hand.

102 East Thirty-first Street.

THE BORDERLAND.

By SARAH E. POST, M. D.

The interest in occult psychic phenomena seems on the increase rather than on the wane. *Scribner's Magazine* for March has a charmingly written paper upon The Hidden Self, by William James, brother to the novelist; while the Forum for April contains two papers of considerable interest—The True and the False in Spiritualism, by Mr. Hodgson, and a paper upon the relations of Hypnotism and Crime, by Charcot. Last year, too, we had a series of papers dealing with the usual phenomena of hypnotism in the *North American Review.*

The last-named series described experiments with which we are familiar. The patient having been thrown into the hypnotic condition, the operator, technically known as the agent, by means of the sense of sight or hearing or in some other clearly material way, communicated to him suggestions in the form of trains of thought with a natural conclusion or in the form of direct commands. As a result, the subject would believe absurd propositions, perform ridiculous actions, or even commit crime. In the course of these papers Mr. C. distinctly says that he has never succeeded in conveying suggestions in any but tangible ways. For instance, if the patient had his back to him he could not secure his co-operation without the aid of the voice. The influence of his mind, unaided by the ordinary senses, was unable to communicate or to impress itself upon the mind of the other; in fact, the tone of the statement made upon this point is such as to lead to the inference that the writer disbelieves in such unembodied transmission of mind force.

A curious point about hypnotics is that the person hypnotized is of a different disposition from the person unhypnotized. This fact is the feature of Mr. James's paper. In certain easily hypnotized persons it has even been found possible to produce two distinct conditions of hypnotization, so that the person has three separate lives or planes of consciousness, not any one of which infringes upon or is cognizant of the other. A still more curious thing, perhaps, is the fact that only one of these planes of consciousness wakes to activity at a time.

When hypnotized in the first degree the subject resumes memory and impulses belonging to this state at the point where they were dropped at the end of the previous séance. A similar resumption occurs when the subject is hypnotized in the second degree; and similarly, the unhypnotized individual knows nothing of what has passed during the other two phases of his existence and is a quite different person—a very stupid person, by the way, as a rule. Mr. James suggests that the familiar sensation of having been previously in the same place or surrounded by the same circumstances is perhaps due to the intruding of a second or hidden plane of consciousness into the affairs of ordinary life. He suggests also that dreams, often so erratic and contrary to ordinary experience, may be due to activity of this hidden self. As in the old German tales, the puppets and the playthings come out from their receptacles and hold high revel while sleep rules the master of the house.

Just here we would like to call attention to the fact that some hypnotics in France have been controlled by minds at a distance; they have been even incited to actions by will power exerted miles away; and this brings us to another phase of psychic control, the domain of telepathy. By the way, the word telepathy is not found in Webster's dictionary, edition of 1886. From an analysis of its root-forms, however, we arrive at the fact that it means to suffer or to experience from a distance or at a distance. Telephone and telegraph are similarly constructed words, telephone meaning to speak from afar; telegraph, to write from afar; and telepathic (we have not yet arrived at the noun telepath), suffering or experiencing from afar. In the line of these experiences comes the presentiment that some one approaches or is near. Instances have been given in which highly nervous invalids have even known the personality of the approaching guest by telepathic instinct. Mr. Hodgson suggests that the phenomena of clairvoyance and slate writing are of this character, the medium or slate writer really obtaining her ideas from the minds of those present. It is said that the agent in this case need not even have the matter by which the subject is impressed actively before his consciousness; he may at the time even be "thinking of something else."

We have then recognized as demonstrated phenomena, mind control by means of hypnotism and suggestion through ordinary channels, and mind impression or control either directly or by channels which we do not know. I do not, however, find recognized by any of these writers a third phenomenon which I am assured exists. This is direct muscular control by a foreign mind. In the case of certain hypnotized people it has been possible to slow the heart by telepathic suggestion on the part of the operator. These cases have never received an adequate explanation. Apparently there was no mental state in the subject which induced the inhibition; it was a direct result of control. To this example I can add a case of my own more fully reported in the *North American Review* for April, 1889.

The place was the sitting-room of a woman's boarding-house. None but women were present. The experiment was in the form of a game in the course of which the subject, blindfolded, found different hidden articles, the suggestion being supposably conveyed from the mind of the operator through her hands lightly laid on the subject's back. The subject succeeding in these ordinary manœuvres of the game, a more difficult test was proposed. The subject advanced to the middle of the room, bent her head and gave no further response, and the experiment was declared to have failed. The evidence carried by this series of experiments has to do entirely with that one which failed. Subjects being usually hypnotized, it is seldom we have the opportunity to get their side of the story. This subject was not, however, hypnotized, and her description of the experiment is as follows: "Learning that all that was required of me was to follow suggestions, I promised co-operation. I stated at first that I would make no resistance; that if the operator could make me know what I was to do by means of her hands on my back, I would do it. I further prepared myself by putting all ideas out of my mind, for I thought, unless I am alert and attentive, I shall not be able to understand what it is I am to do. My thought was that I might receive a finished idea or project which would outline what I was to do. Instead, during the earlier experiments, I felt nothing but a loss of equilibrium; I took steps in this direction or that to save myself from falling down. I do not remember the sensations which preceded or accompanied putting out the hand to grasp the hidden objects, but I found the things without knowing that I was looking for them. During the last experiment, however, I did have an idea, and it came about in this way. I advanced to the middle of the room in response to the loss of equilibrium as before. I bent my head and then commenced to feel a puckering up of the mouth, and I said to myself: 'I am afraid they are going to make me kiss some one. I hope not, for I shall not be able to do it.' Then I reasoned with myself about having so foolish an idea. I said to myself: 'Put it away or you will not be able to receive the impression they are trying to give to you.' I did then succeed in again abstracting my mind so that no memory of the kiss remained, but no further impulse came to me. I stood in the center of the room motionless, not even the loss of equilibrium reasserting itself." The subject had been directed to kiss one of the young ladies in the room; she had advanced to her side, but had remained standing, and the experiment was declared to have failed.

The subject was at that time at least a fairly intelligent person, and her evidence is perhaps as good as that of any which can be obtained upon these matters. The subject was positive that the idea of kissing followed the contraction of the orbicular muscle, and was apparently suggested by it. The muscular act, like those of the preceding experiments, was not induced by any idea or conscious mental effort on her part.

The proposition of muscular control by the intervention of a foreign mind is startling in its far-reaching importance. It will be borne in mind that the subject is undisturbed, is unconscious of control until it reveals itself by the finished act. Even then he or she may not be completely conscious unless the action excites repugnance in the mind. A whole series of experiences will range themselves under this heading if its existence be once admitted.

Undoubtedly the possibility of extraneous muscle control is in a high degree abnormal; it is one of the phases of hysteria. James defines hysteria as the power of concentrating or splitting up consciousness. By this process consciousness may be withdrawn from certain brain areas or independent realms of consciousness may exist within the same brain. While this faculty is undoubtedly rare among us, it is not rare among Eastern peoples, abstraction being there a highly prized faculty of the mind. Insensibility to pain and the various phenomena of stoicism can perhaps be traced to this source.

The mechanism of extraneous muscle control must be in the highest degree problematic, as it implies either a spiritual entity capable of taking possession of another's body, or some as yet unrecognized medium of force.

The applications of this power should be, like those of the phenomena of hypnotism, limited to therapeutic purposes. While in a state of health extraneous muscle control must be undesirable. We have heard of suggestion used for moral ends. The refractory boy or girl is gently hypnotized and persuaded to the adoption of wholesome ideas. But it will be recognized that the appeal is in this case to the mind of the subject. The phenomenon belongs to the first class of cases we have here considered. In the class now under consideration the appeal is directly to the irresponsible body. It is apparent that under ordinary circumstances nothing but harm can result from such control. We believe that in sickness, however, this power is and should be utilized for good. The "control" of the good doctor and good nurse is, I believe, often of this character. We are ourselves conscious of having controlled vomiting in patients by our own mental efforts at a time when the patients' mental processes were of too unreliable a character to be considered a factor in the result.

The value of moral ideas or prejudices also becomes very apparent in this connection. The subject in the experiment narrated interfered with the control from the fact that the action required was repugnant. Deep-rooted prejudices in favor of right living will be the best protection against harmful extraneous control.

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RECENT MEDICAL LEGISLATION IN NEW YORK.

Last winter an effort was made to secure the repeal of the act making it necessary for persons about to study medicine to pass a preliminary examination by the Board of Regents of the University, or under their direction. The effort failed, but certain modifying bills were passed, and have received the Governor's signature, effecting the following changes: 1. The examination, although still called "preliminary," may be passed at any time during the student's first year of study within the State. 2. It may be conducted by the college faculty "in accordance with the standard and rules of the said regents." 3. The examination is not required if the candidate possesses qualifications which the regents consider and accept as fully equivalent to those demanded in their examination. The regents were to meet on the 13th of June to decide upon these equivalents, and it was their announced intention to notify the various medical schools promptly of any conclusion at which they might arrive. According to the original act, the possession of a degree in arts, science, or philosophy from an institution duly authorized to confer the same exempts the holder from the examination.

The new medical practice act goes into effect on the 1st of September, 1891. Its provisions are substantially as follows: Three separate boards of medical examiners, each consisting of seven members, are to be appointed by the Regents of the University from nominees of the three State medical societies. One board is to represent the Medical Society of the State of New York, the second the Homœopathic Medical Society of the State of New York, and the third the Eclectic Medical Society of the State of New York. The appointments are to be made annually. The regents are empowered to fill vacancies and to make appointments on their own motion in case nominations are not made by the societies, and each examination conducted by a board must be under the supervision of an examiner appointed by the regents and not himself a member of either board. The regents are also to select the examination questions, which are to relate to anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, and therapeutics, "including practice and materia medica." The questions are to be the same for all the boards, except in therapeutics, in which they are required to be "in harmony with the tenets of the school selected by the candidate." The examinations are to be conducted in writing, and the regents are to license the successful candidates. After the date on which the act goes into effect, nobody can begin the practice of medicine in the State until he has received the regent's license. He has first to apply to the regents for the examination and license, paying a fee of $25 and furnishing satisfactory proof (by affidavit, if the regents require it) that he is more than twenty-one years old and of good moral character, has a medical diploma or license, and studied medicine three years, "including three courses of lectures in different years in some legally incorporated medical college or colleges" before the diploma or license was conferred upon him. The regents are authorized to accept licenses from other State boards maintaining an equal standard, together with a fee of $10.

We have lately received a number of inquiries as to these legislative provisions, and some of our correspondents have asked for our opinion as to their effects. As to certain matters of detail, it can hardly be said beforehand what the results will be. A great deal depends on the quality of the supervision exercised by the regents.

THE GERMAN SURGICAL SOCIETY.

A condensed report of the proceedings of the nineteenth congress of the German Surgical Society, held on the 9th, 10th, 11th, and 12th of April, has been issued in the form of a supplement to the *Centralblatt für Chirurgie* for June 21st. It makes a pamphlet of 104 large octavo pages, printed with the clearness and precision characteristic of the productions of Messrs. Breitkopf & Härtel. On the first page we find a table of contents in which the papers are classified under the heads of general pathology and therapeutics, the head and face, the vertebral column and the neck, the chest, the gastro-enteric canal and the liver, the urinary and sexual organs, and the limbs; and the papers are published in this order. It does not appear that the papers were read in an order corresponding to this classification, although that may have been the case, and such a procedure would have been quite in keeping with the regard for system usually displayed by our German colleagues. At all events, their systematic arrangement in the report and that of their titles in the table of contents must prove convenient to a reader seeking for a particular item in the proceedings, and it would have been an additional aid if the page numbers had been placed after the titles.

The report is to be commended not only for this judicious arrangement of the matter, but also for the admirable brevity with which the abstracts of papers and the substance of the remarks made in the discussions are given. The pith of about sixty papers and demonstrations is got into a little over a hundred pages, along with that of the discussions. It is particularly in the latter that condensation is shown; rarely does the summary of a discussion take up so much space as half a page. This shows either that the participants in the meeting were remarkably considerate or that the reporter was a master of his art; for we can not assume that anything of real importance was omitted or slighted, although it does look a little odd to see under the last heading (Demonstration of a Preparation of Congenital Sarcoma of the Dorsum of the Foot) only the terse statement "It was a small-celled spindle-cell sarcoma."

Among the names well known in this country we find the following in the report: Mikulicz, Bruns, Krause, Trendelenburg, Kraske, Rydygier, Riedel, Lauenstein, König, Ponfick, Madelung, Braun, Thiersch, Krönlein, and Helferich as those of authors of papers, and von Bergmann, Heidenhain, and Baumgärtner as those of participants in the discussions. Some of the noticeable titles were: The Proportion of Hæmoglobin in the Blood in Surgical Diseases, Actinomycosis, Ether and Chloroform Narcosis, The Treatment of Tubercular Affections with Iodoform Injections, Massage, Trephining, The Operative Surgery of the Vertebral Canal, Perityphlitis (three papers), The Radical Operation for Hernia, Operations for Intestinal Stenosis, Resection and Restoration of the Liver, Spiral Fractures, Neuropathic Diseases of the Bones and Joints, and The Treatment of Club-foot. Trendelenburg showed a remarkable operating-table, three woodcuts of which are given in the report. It is evident that the meeting brought out some of the best work of the best men in Germany, and that the society is one of great usefulness.

MINOR PARAGRAPHS.

THE REMUNERATION OF MEDICAL EXAMINERS IN LIFE INSURANCE.

It was an interesting discussion from more than one point of view that took place at a meeting of the Section in State Medicine of the Royal Academy of Medicine in Ireland, published in this issue. Many of our readers will probably be surprised to learn of the state of things mentioned by Sir William Stokes—namely, the payment of medical examiners in life insurance by fees proportionate to the amount of the policy to be taken by the applicant. It seems to us that the profession in Ireland ought not to fail in their efforts to have such an illogical system done away with. We are not aware that it has ever been in use in this country.

ANTISEPSIN.

In the *Lancet* for June 7th Dr. Cattani is quoted concerning the antipyretic properties of paramonobromacetanilide, or antisepsin. Its use in pneumonia with high temperature and in typhoid fever shows that its power to reduce body heat is equal to that of acetanilide. It likewise has antineuralgic properties. In the treatment of hæmorrhoids and other anal lesions its effects are marked when administered in the form of suppositories. As an antiseptic application to wounds and offensive ulcers, it has had some use with good results, the lesions generally healing quickly.

AN INTERESTING LITERARY REPRODUCTION.

A Newcastle-on-Tyne publishing firm, Messrs. Mawson, Swan, and Morgan, announce the fac-simile reproduction of an old manuscript volume entitled Ye Apothecarie; his Booke of Recepts agaynst alle maner of sickenesses; allso howe to bake meates, to make Uskabaughe, to die clothe or woole, and divers usefull thinges besydes. The manuscript dates back about three centuries.

THE PUBLICATION OF PATIENTS' NAMES IN CLINICAL HISTORIES.

We have before pointed out the impropriety of publishing patients' full names in the histories of their cases. There is seldom if ever any good reason for doing it, and it must often do violence to feelings that medical men are bound to respect. An esteemed correspondent has suggested to us to call attention to the matter again, and we do so with the feeling that it is one of no trifling importance.

COD-LIVER OIL AS A VERMIFUGE.

In a recent number of the *Union médicale* we find the following formula for an enema of cod-liver oil for the removal of the *Oxyuris vermicularis:* Cod-liver oil, 40 grammes (about 10 drachms); the yolk of an egg; water, 125 grammes (about 4 ounces). In case of failure, an enema of pure cod-liver oil is recommended.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 8, 1890:

DISEASES.	Week ending July 1.		Week ending July 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	11	5	8	0
Scarlet fever	34	10	43	2
Cerebro-spinal meningitis	1	0	2	2
Measles	276	25	271	23
Diphtheria	84	23	74	23
Varicella	1	0	4	0

The Chicago Gynæcological Society.—A meeting held on the 13th of June was devoted entirely to the memory of the late Dr. William H. Byford, who was one of the founders of the society. The programme included an address by Dr. H. P. Merriman and remarks by Dr. N. S. Davis, Dr. H. A. Johnson, and Dr. John E. Owens.

The Rush Medical College, of Chicago.—Dr. Henry M. Lyman has been appointed professor of the principles and practice of medicine, and Dr. James H. Etheridge professor of gynæcology.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, for the two weeks ending July 5, 1890:*

Suter, William N., First Lieutenant and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for two months, to take effect August 6, 1890. Par. 3, S. O. 149, A. G. O., June 26, 1890.

Borden, William C., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for three months and fifteen days, to take effect as soon as his services can be spared. Par. 11, S. O. 146, A. G. O., June 23, 1890.

Died.

Culbertson, Howard, Captain (retired), died June 18, 1890, at Zanesville, Ohio.

Appointments.

To be Assistant Surgeons, with the rank of First Lieutenant:

Keefer, Frank R., of Pennsylvania, June 6, 1890, *vice* Woodruff, promoted.

Raymond, Thomas U., of Indiana, June 6, 1890, *vice* Newton, resigned.

Snyder, Henry D., of Pennsylvania, June 6, 1890, *vice* Wilson, resigned.

Smith, Allen M., of New York, June 6, 1890, *vice* Matthews, promoted.

Heyl, Ashton B., of Pennsylvania, June 6, 1890, *vice* Hall, promoted.

Clarke, Joseph T., of New York, June 6, 1890, *vice* Porter, resigned.

Greenleaf, Charles R., Major and Surgeon, will, by direction of the Secretary of War, attend the encampment of the Pennsylvania National Guard at Mount Gretna, Pennsylvania, from the 18th to the 26th of July, 1890, for the purpose of accompanying the Surgeon-General of Pennsylvania in his inspection of the camp. Par. 11, S. O. 144, A. G. O., June 20, 1890.

Taylor, Marcus E., Captain and Assistant Surgeon. Leave of absence for one month, on surgeon's certificate of disability, is hereby granted, with permission to go beyond the limits of this Division, and to apply for an extension of five months. Par. 1, S. O. 45, Division of the Pacific, San Francisco, Cal., June 13, 1890.

Kimball, James P., Major and Surgeon. By direction of the Acting Secretary of War, leave of absence for four months is granted, to take effect when an officer of the Medical Department is assigned by his department commander to relieve him. Par. 6, S. O. 152, A. G. O., July 1, 1890, Washington, D. C.

Ball, Robert R., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Riley, Kansas, and will report in person to the commanding officer, Fort Spokane, Washington, for duty. Par. 7, S. O. 151, A. G. O., June 28, 1890, Washington, D. C.

Corbusier, William H., Captain and Assistant Surgeon, is relieved from duty at Fort Lewis, Colorado, and will report in person to the commanding officer, Fort Wayne, Michigan, for duty. Par. 7, S. O. 151, A. G. O., June 28, 1890, Washington, D. C.

By direction of the Secretary of War, the following-named Assistant Surgeons (recently appointed) will report in person for duty to the commanding officers of the posts designated opposite their respective names:

Keefer, Frank R., First Lieutenant, Fort Leavenworth, Kansas.
Raymond, Thomas U., First Lieutenant, Fort Sherman, Idaho.
Snyder, Henry D., First Lieutenant, Fort Reno, Indian Territory.
Smith, Allen M., First Lieutenant, Fort Snelling, Minnesota.
Heyl, Ashton B., First Lieutenant, Fort Niobrara, Nebraska.
Clarke, Joseph T., First Lieutenant, Fort Riley, Kansas.
Par. 6, S. O. 151, A. G. O., June 28, 1890, Washington, D. C.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending July 5, 1890:*

Page, J. E., Assistant Surgeon. Ordered to hospital, Mare Island, Cal.

Kennedy, R. M., Assistant Surgeon. Ordered to the League Island Navy Yard, Va.

Society Meetings for the Coming Week:

Tuesday, *July 15th:* Medical Society of the County of Otsego (annual—Cooperstown), N. Y.

Letters to the Editor.

NITROGLYCERIN IN GAS ASPHYXIA AND POISONING.

143 North Seventh Street, Zanesville, O., *July 7, 1890.*

To the Editor of the New York Medical Journal:

Sir: I see cases of gas poisoning successfully treated by nitroglycerin are being reported; therefore a few remarks relative to that subject will not be inappropriate. Since the publication of my article in your issue of December 14, 1889, I have received a letter from a personal friend, in which he spoke of a case that he had successfully treated with nitroglycerin subsequent to the publication of my article. It will be pertinent here to describe a case within my knowledge. One day last autumn, as I was passing along the street where several men were engaged in putting down new gas-pipes, I noticed a man lying inclined against a tree, apparently asleep, but whom I surmised to be asphyxiated by the escaping gas. He was receiving no attention whatever.

I examined him and found nothing except a shallow and irregular respiration to indicate that any condition other than that of natural sleep existed.

The superintendent of the gas company informed me that the man had been "gased," as he termed it, and had been carried aside to wait till noon, when a wagon would be brought to convey him to his home. The superintendent gave me the following information: This man was very susceptible to gas. During a period of fifteen years, which time he had been in the employ of this company, he had been asphyxiated some ten or twelve times. He usually remained unconscious for several hours—generally six or eight. This condition had become so familiar to his fellow-laborers and his family that its occurrence gave them no alarm. He retained the ability to swallow, and they were in the habit of giving him whisky. During some of his former asphyxiations he had had a physician, who, by the use of medicines and the battery, had failed to abridge the period of unconsciousness. They did not deem it necessary at this time to employ medical aid, and by the use of whisky he recovered in the usual time. He would no doubt have recovered as soon without the whisky, as I could see no indication for it.

It seems to me there should be a division of these cases into those of asphyxia and those of real poisoning. In asphyxia, recovery is rapid. In poisoning, the poison has a firm hold on the system and is not eliminated for several hours. Whether there is any pathological difference or not except in degree I do not know, but the fact that one person will recover in an hour or two, while another with the same treatment will remain comatose for twenty-two hours, I think is sufficient to justify the distinctions mentioned. To substantiate my claim of originality in the treatment, I have simply to say that I used it for the first time in gas poisoning on November 20, 1888—almost a year before it was used by any one else, so far as reported.

I did not report my case sooner because I had been using nitroglycerin as a stimulant some time before I treated my case, and was not aware that it had any other property than that of a stimulant, nor do I now know its *modus operandi* if it is other than by stimulation. J. C. Crossland, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 5, 1890.

The President, Dr. A. L. Loomis, in the Chair.

Bacteriological Researches in Yellow Fever.—In a paper with this title, Dr. G. M. Sternberg, of the United States Army, said that in 1879 he, as a member of the Yellow-Fever Commission sent to Havana by the National Board of Health, had devoted himself especially to a search for the specific infectious agent in the blood of patients in various stages of yellow fever. The result of this research had been negative. Extended researches made during the past two years by the most approved bacteriological methods had fully confirmed this negative result. Exceptionally micro-organisms were found in cultivations from the blood and tissues, even when the autopsy was made very soon after death, but the bacillus encountered most frequently had been identified as the *Bacterium coli commune* of Escherich, which was constantly present in the intestine of healthy persons, and consequently could not be the specific pathogenic agent in yellow fever. Other micro-organisms associated with this were found so exceptionally and in such small numbers that no special significance could be attached to their presence. The examination of thin sections of the liver, kidney, and other organs, stained by the most approved methods for demonstrating micro-organisms, gave results corresponding with those obtained by cultivation methods.

That various micro-organisms were present in small numbers in the liver and kidney (and presumably in other organs) at the time of death was shown by preserving fragments of considerable size in an antiseptic wrapping which destroyed all micro-organisms which might have accidentally fallen upon the surface of the fragment and prevented the entrance of germs from without. Such a fragment preserved for forty-eight hours at a temperature of 27° C. (80·6° F.) always contained a large number of bacilli of different species which had evidently developed from scattered bacilli present in the organ from which it was taken at the autopsy. These bacilli were for the most part anaerobics, or facultative anaerobies, and did not give rise to a putrefactive odor. The tissue containing them had a very acid reaction. Putrefactive organisms were also present, and pieces of tissue kept for a longer time gave evidence of putrefactive decomposition.

The micro-organisms present in fragments of liver and kidney preserved in the way indicated had been carefully studied, and numerous comparative researches had been made, since his return from Havana, which showed that those most constantly and abundantly present were not peculiar to yellow fever. In cases of accidental death and of death from other diseases fragments of liver preserved in the same way had contained the same micro-organisms. His bacillus *n*—a large anaerobic bacillus, which for a time he had thought might be the specific germ he had been in search of—he had found in these comparative researches, and been obliged to exclude it from further consideration from an ætiological point of view. One bacillus, however, which was found in a considerable number of cases of yellow fever, in pieces of liver preserved in an antiseptic wrapping, although not in very great numbers, had not been found in his comparative autopsies. This was a non-liquefying bacillus which resembled the colon bacillus in its growth in flesh-peptone-gelatin and in its morphology, although it was somewhat larger. It was also more pathogenic, especially for rabbits. This was his bacillus *x*. Not having excluded it by his comparative researches, he looked upon it as being possibly the specific yellow-fever germ, but he had not been able as yet to obtain any satisfactory experimental evidence that such was the case. This same bacillus was found in the contents of the intestine where it was associated with a variety of other bacilli, some of which were strict anaerobics and some facultative anaerobics. The most constant and abundant of these was the *Bacterium coli commune* of Escherich.

Comparatively few liquefying bacilli were found in the contents of the intestine or stomach, or in cultivations from pieces of liver and kidney preserved for forty-eight hours in an antiseptic wrapping. The bacillus of Dr. Paul Gibier had been found in the contents of the intestine in a limited number of cases, but it had been absent in a majority of the cases in which the speaker had made autopsies—forty-three in all—and, when present, had not been abundant as compared with the non-liquefying bacilli. And it was not found in any considerable number of cases in his cultivations from fæces collected during the lifetime of the patient. There was therefore no good reason for supposing that this bacillus had anything to do with the ætiology of yellow fever. And, as a result of his extended cultivation experiments, he felt justified in asserting that yellow fever was not due to a liquefying aerobic micro-organism.

The micrococcus which Dr. Domingos Freire had presented to him as his yellow-fever germ at the time of the speaker's visit to Brazil grew readily in flesh-peptone gelatin, and caused liquefaction of this medium. Its presence would therefore be readily ascertained by the culture methods which he had employed. It had not been present in a single instance in his cultivations from the blood and tissues or from the contents of the intestine. It was therefore excluded from consideration as being concerned in the ætiology of yellow fever. The *Tetragenus febris flavæ* of Dr. Carlos Finlay, of Havana, was a common atmospheric organism in that city which the speaker had obtained in cultivations from the surface of the body of patients suffering from various diseases, and of healthy persons. He had not obtained it in his cultivations from the blood and tissues, and considered it definitely excluded as the possible ætiological agent in the disease under consideration.

The morphological characters and mode of growth in various culture media of the different micro-organisms referred to, and of others encountered in his bacteriological researches, would be demonstrated by projecting upon a screen his micro-photographs and photographs of colonies and test-tube cultures. A detailed report containing a full account of the researches made during the past two years in Havana, Cuba, and Decatur, Alabama (1888), was now nearly completed, and would be submitted to the President within a short time.

The President, in closing the meeting, said that this was the last meeting in the old building. It was now about twenty years since it became the property of the Academy, during which time the membership had more than doubled; the library had been increased more than two thousand volumes; eight sections in the different departments of medicine and surgery had been organized and were doing efficient work. Here had been fought and settled many scientific and ethical questions. Clouds had darkened the skies, but they had been dispelled by the intelligence and wise councils of the fellowship of the Academy. This building was left with a united, enthusiastic fellowship which numbered nearly seven hundred. As the Academy entered its new building, let it be with the resolve that it should be a place for better scientific work, and where should be cultivated more largely the social side of our professional life.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN STATE MEDICINE.

The President, Dr. A. W. Foot, in the Chair.

Meeting of Friday, February 7, 1890.

The Medical Selection of Lives for Assurance.—Instead of the usual introductory address, the president of the Section read a paper on this subject. The responsible and often difficult duties of a medical examiner were very different from those of an ordinary practitioner. The questions set forth in the proposal sheet were regarded by some as vexatiously minute and unnecessarily numerous; but the reader anticipated that ere long the companies would require information as to the condition of the retina, the state of arterial tension, the integrity of the various reflexes, the centesimal excretion of urea, the nutrition of nerves and muscles as estimated by electricity, microscopic details of urinary sediments, and a statement of the respiratory capacity. Referring to the proposal forms, he criticised the tenacity with which companies clung to the ideal configuration of an apoplectic person, as short, stout, thick, and red. He maintained that there were no external indications of the arterial degeneration which was the proximate cause of cerebral hæmorrhage. Meanwhile there was little, if any, attention paid to the significance of aural discharges, to that of recurrent erysipelas (especially facial), to that of latent disease of the rectum, and to cases of fæcal obstruction. The embarrassments which the conscientious discharge of an examiner's duty might involve were illustrated, and the severance of life-long friendships in consequence was cited. Several points of a practical nature were made in reference to consumptive lives, and the means adopted to blind examiners. The important subject of "habits" with reference to the use of alcohol was fully treated of. The question of the acceptance of an albuminuric life was discussed, and the rejection of it under any circumstances recommended. In like manner, persons with chronic mitral regurgitation were considered unsound from an assurance point of view, though in private practice they might, with care and attention, live long and efficiently.

Professor **Purser** said that the medical man should state, in the clearest language, what he believed to be the condition of the applicant's health, and it was for the company then to settle whether they would reject him altogether or take him with an addition, to be determined with the aid of an actuary. It was difficult to know what value to put on family history. Often it was difficult to say what a patient died of; and, again, post-mortem examinations disclosed that the causes were different from what the doctor thought. He did not think that the Registrar-General's returns were sufficiently accurate to found scientific conclusions upon them. As regarded renal disease, if he found an applicant had albuminuria he advised that the case should be postponed for three or six months, or a year; and if there was albumin in the urine when he came up again he was rejected, but if not he was accepted. No matter how long a person might live who had albuminuria, he did not think such an applicant safe to accept on any terms. For a considerable period of his experience in examining during the past twenty years it had been left optional by the company to examine the urine for albumin, and his practice, accordingly, had been to examine it only where he had reason to suspect there was something the matter with the kidneys; but for some years past he had been obliged to examine for sugar and albumin in every case, and in a considerable proportion of the applicants, in whom there was no reason to suspect anything the matter with their kidneys, he had found albumin, and, though apparently in perfect health, they were rejected.

Dr. **McSwiney** said that, though he was not an examiner for an insurance office, cases had come under his observation upon reference, as an independent physician, on the question of suitability for assurance. He asked what effect the opium habit ought to have in determining the question. Having regard to the advances in surgical science, he also asked whether hernia, which was now so successfully cured by the radical method, would involve rejection; and also as to the conclusion to be drawn from the presence of hæmorrhoids, which might be regarded as symptomatic of other disease. Organic valvular disease was another point upon which he desired a definite opinion.

Dr. **Bewley**, as an examiner for an insurance company, said that he had met with two cases of primary syphilis followed by eruptions. He submitted that an applicant so suffering ought not to be considered on a par with a man who never had had syphilis.

Dr. E. **MacDowel Cosgrave** said insurance offices were now, as a rule, alive to the importance of the symptom of albumin in the urine; so that, at any rate in all cases of policies for over £500, the compulsory examination of the urine was the rule. One company, with which he was himself connected, had solved the difficulty in dealing with slight deviations from health in a peculiar and satisfactory way. Instead of loading the premiums, a policy was issued at the ordinary rates, but the amount of the policy was payable on a sliding scale. Thus, where the amount was £1,000 and the expectation of life twenty-five years, if healthy, the policy was issued upon the terms that if the insured died in the first year the liability of the company would be only £800; but each year of life increased the policy, so that in twenty-five years the policy was for £1,000. Thus there was no "loading" for lives which lived the full expectation. The plan seemed to work well, and lessened the difficulties of the examiner.

Sir **William Stokes** said there were some practical difficulties in the way of carrying out some of Dr. Foot's suggestions—for instance, in the case of females, however theoretically desirable an examination of the rectum might be, it was impracticable. Nothing could be more pernicious and unfair than making the doctor's fee for examination proportionate to the amount of money insured; because the medical man who discharged his duty must necessarily have the same trouble in examining a person seeking to insure for only £100 as in the case of a person insuring for £10,000; and he thought the medical profession ought to make a stand on the point. His experience did not coincide with Professor Purser's in meeting persons who told the truth as regarded their habits of life, especially persons of intemperate habits. He had known three cases of intemperate or free drinkers who had exercised self-denial for months, and had then gone before a doctor and denied that they were, or had been, of intemperate habits, and so passed as first-class lives; but immediately afterward reverted to their old habits, got ill, and died. Notwithstanding the advances in surgery, he would not recommend a person with hernia as a first-class life; he would be extremely apprehensive of the result of the operation for the radical cure. Even after a successful operation the hernia might come back again, perhaps in a form more difficult to deal with than before. Neither would he accept a person afflicted with hæmorrhoids as a first-class life. The operation only dealt with the existing condition of the parts the seat of the disease, and not with the conditions which brought about the disease. He would not recommend cases of albuminuria to be taken under any circumstances, the presence of albumin being sufficient indication of "something rotten in the state of Denmark" in connection with the kidneys.

Dr. **Donnelly**, Dr. W. **Stoker**, Dr. F. **Nixon**, and Sir C. **Cameron** having made some remarks, Dr. **Foot** replied. He concurred with Professor Purser as to the duty of a medical man to regard the interests of his company as paramount. He rejected albuminurics and risky lives, acting on the principle that it was better to have a few good sound lives whose premiums were sure for years than to pass lives at high premiums which might be lost at any time. It was difficult in some cases to give a decisive opinion "yes" or "no" in answer to the question whether a particular life was a good one or not, so many circumstances had to be considered and weighed; but the company required that he should come to a definite conclusion without setting out his reasons. It was important to ascertain about scarlatina and infantile diseases; for instance, scarlatina was less likely to lead to renal complications in a child than in an adult. As regarded the opium habit or morphinism, the point had been settled in the case of the Earl of Mar, that it did not shorten life. Hernia cases were suspicious, though a great many people wore trusses without need of them. Hæmorrhoids always suggested an examination of the rectum, for cancer of the rectum had often been called piles. He was against passing cases of organic disease of the heart. Syphilis was an unfavorable condition; but it was a matter of judgment how far the life might be shortened, and in such cases a consultation would be desirable. He concurred as to the absurdly small fees for examining cases for policies of small amount. As regarded females, as a rule men insured for women, not women for men; but there were ways of examining the urine or the rectum, and if there was a question of fissure or piles, an examination should be made. He was not so trustful as Professor Purser, and he believed that alcoholism and morphinism were habits deteriorating the organ of truth. Tobacco, taken in large quantities, especially the coarse, common tobacco, handicapped the nervous system.

Book Notices.

A Guide to the Diseases of Children. By James Frederic Goodhart, M.D., F.R.C.P., Physician to Guy's Hospital and Lecturer on Pathology in its Medical School, etc. Re-arranged, revised, and edited by Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Second American from the Third English Edition, with Numerous Formulæ and Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 13 to 772.

The English editions of this work made many friends. In a new dress it can scarcely be less welcome, though much less convenient and pleasant to study. The chapters on general non-infectious diseases are of particular interest, as well as the author's views of nervous disorder during childhood. Skin disease receives little more than passing mention, the ground being so well covered throughout the extensive literature of the subject. The dietetics of childhood is considered in every department, and constitutes, as elsewhere, one of the most important elements of hygiene. The book is the record of careful observations and well-weighed conclusions.

Psychology as a Natural Science applied to the Solution of Occult Psychic Phenomena. By C. G. Raue, M.D. Philadelphia: Porter & Coates, 1889. Pp. 8–9 to 541.

This exposition of psychology has evidently been undertaken with much earnestness of purpose. In parts it is suggestive, with sentences here and there capable of serving as texts for the sermons of other writers on psychology. At the same time the line of argument is old, very old, and not in touch with the spirit of modern investigation. It is impossible to see wherein the book can be of any particular value to the nineteenth-century doctor, whose aim is to study the orderly arrangement of facts according to an underlying principle.

The Cure of Crooked and Otherwise Deformed Noses. By John B. Roberts, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 7 to 24.

In many cases the disfigurement caused by a deformed nose is the cause of more distress to the patient than a more serious but concealed defect might be, and he has a right to expect from the surgeon the best efforts consistent with safety to relieve this mental distress. To the surgeon, then, who will determine to relieve this form of suffering to the best of his ability we commend this little monograph, which contains the results culled by the author from his experience.

Clinical Lectures on Varicose Veins of the Lower Extremities. By William H. Bennett, F.R.C.S., Surgeon to St. George's Hospital, etc. With Three Plates. London: Longmans, Green, & Co., 1889. Pp. ix to 93.

It is only too frequently the case that much labor is devoted to the study of rare forms of disease, while little attention is paid to the common forms, because they are usually considered uninteresting. Still, it is his success or failure in the latter which, as a rule, makes or mars a physician's reputation, and Mr. Bennett has proved in this book that careful study of ordinary cases will make them interesting and bring to light new features in their diagnosis and treatment. The work presents the most thorough consideration of the subject of varicose veins that we have met with, and is particularly valuable regarding the diagnosis of the incipient stage and the various forms of treatment. It is divided into four lectures, the first devoted mainly to the causes and complications of varicose veins; the second, to the incipient stage and to varix at the saphenous opening; the third, to non-operative treatment; and the last to operative treatment. It is essentially practical and strongly commends itself, especially to the general practitioner.

Études de clinique infantile. Syphilis héréditaire précoce; laryngite syphilitique; broncho-pneumonie par infection intestinale; prophylaxie de la rougéole et de la diphthérie à l'Hospice des enfants-assistés. Par le Dr. Sevestre, médecin de l'Hospice des enfants-assistés. Paris: E. Lecrosnier et Babé, 1889. Pp. 3 to 141. [Publications du *Progrès médical.*]

This work consists of four monographs. That on hereditary syphilis is devoted chiefly to symptomatology, and fairly presents our present knowledge upon that subject. That upon the laryngeal manifestations of the disease in infants is of special interest, as it treats in detail of a subject upon which very little has been written.

Several cases of diarrhœa with consecutive pneumonia are interesting, but are capable of an entirely different interpretation from that put upon them by the author. The proposition that pulmonary congestion and broncho-pneumonia may result from infection due to decomposition of the contents of the intestine in fœtid diarrhœa requires much more evidence for its proof than the author adduces.

Perfect isolation as the chief prophylactic measure in measles and diphtheria the author has found most satisfactory.

The Pharmacopœia of the London Skin Hospital. Edited by James Startin, Senior Surgeon to the Hospital. London: Harrison & Sons. Pp. 23.

This little book is doubtless useful to the attendants at the London Skin Hospital. It contains a few of the formulæ to be found in all the recent text-books; some good, some poor. There is, or should be, little popular demand for books of this class, excellent as they may be in themselves and for the purpose for which they were primarily compiled.

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. II. For the Year 1889. Philadelphia: W. J. Dornan, 1889. Pp. xxxviii–397.

The second meeting of this association was fully equal to the former one in point of interest and enthusiasm. The predominant subject of the volume is abdominal surgery; in fact, it overshadows all the others. One finds many positive statements in the discussions of this subject, sometimes defended with great ardor. It is well to have convictions, but it is also well to remember that there are few methods of practice in abdominal or any other department of surgery which are insusceptible of change or improvement. In other words, abdominal surgery is not completed. Equally good results are obtained by those who base their practice upon antisepsis and by those who do not. There are those who make a good argument against the necessity of the over-careful toilet of the peritonæum, the necessity or the efficiency of its irrigation with hot water, and the harmfulness of blood-serum or blood-clot in moderate quantities; and these are matters which have been deemed fundamental by most of the disputants in the discussions under consideration.

Spinal Concussion: surgically considered as a Cause of Spinal Injury, and neurologically restricted to a Certain Symptom Group, for which is suggested the Designation Erichsen's Disease, as one Form of the Traumatic Neuroses. By S. V. Clevenger, M. D., Consulting Physician, Reese and Alexian Hospitals; late Pathologist, County Insane Asylum, Chicago, etc. With Thirty Wood Engravings. Philadelphia and London: F. A. Davis, 1889. Pp. v–359. [Price, $2.50.]

This book purports to be on spinal concussion, a subject which deserves careful, conscientious observation on the part of an author, combined with persistent study of the observations of others. In other words, the ideas and observations of various writers should be concisely and critically arranged together with the author's own experience, so as to make the work a unit. It is to be regretted that this has not been done in the present work. The larger part is devoted to translations and quotations from various writers, with some additions by the author, but with little attempt at unification It is little more than an imperfect collection of writings on the subject. An entire chapter is given to the subject of electro-diagnosis, and most of it might have been omitted with propriety. A bitter attack upon the scientific and medical institutions of the country is not likely to prove conducive to the popularity of the book, and the interjection of references to private differences with the local authorities does not appear to be in good taste. Still, if the work furnished any real advance in the study of this important subject, these faults, as well as the boastful style, might be overlooked. The book is well got up typographically and the cuts are excellent.

The Clinical Use of Prisms; and the Decentering of Lenses. By Ernest E. Maddox, M. D., late Syme Surgical Fellow, Edinburgh. Bristol: John Wright & Co., 1889. Pp. iv–7 to 113.

This little book is written from a practical point of view, and is intended to be an aid to precision in the use of prisms rather than a demonstration of the author's mathematical talent. While it is worthy of the perusal of those skilled in this branch of ophthalmology, it is adapted to the needs of practitioners who, though not so skilled, dabble in this form of practice. A *résumé* of the writings of Dr. Stevens on this subject is given in the appendix.

BOOKS AND PAMPHLETS RECEIVED.

Intestinal Anastomotic Operations with Segmented Rubber Rings, with some Practical Suggestions as to their Use in other Surgical Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo. [Reprinted from the *Transactions of the Southern Surgical and Gynæcological Association.*]

New Methods of performing Pylorectomy, with Remarks upon Intestinal Anastomotic Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo. [Reprinted from the *St. Louis Courier of Medicine.*]

Some Points on the Perinæum and Forceps, with a Description of a New Method of assisting the Perinæum, and a New Combined Axis Traction Forceps to be used as an Alternative for Craniotomy. By T. J. McGillicuddy, M. D. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

Two Cases of Resection of the Cæcum for Carcinoma, with Remarks on Intestinal Anastomosis in the Ileo-cæcal Region. By N. Senn, M. D., Ph. D., Milwaukee. [Reprinted from the *Journal of the American Medical Association.*]

L'intoxication chronique par la morphine et ses diverses formes. Par le Dr. L. R. Regnier, ancien interne en médecine des hôpitaux de Paris. Paris: E. Lecrosnier et Babé, 1890. Pp. 5 to 171. [Publications du *Progrès médical.*]

The Condition of the Blood in Chlorosis. Notes on the Course and Secondary Symptoms of Chlorosis. By Charles N. Dowd, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

Du rôle physiologique et thérapeutique de l'azote gazeux, considéré principalement dans les eaux minérales des Pyrénées. Par le Docteur E. Duhourcan. [Extrait de la *Revue des Pyrénées et de la France méridionale.*]

Uric-Acid Diathesis in Affections of the Eye, Ear, Throat, and Nose. By W. Cheatham, M. D., Louisville, Ky. [Reprinted from the *American Practitioner and News.*]

Reciprocal Responsibilities. An Address delivered on the part of the Faculty at the Forty-first Commencement Exercises of the Medical Department of Georgetown University, at Lincoln Hall, on May 5, 1890. By Swan M. Burnett, M. D., Ph. D., Washington.

Climatology and Diseases of Southern California. By F. D. Bullard, A. M., M. D. [Reprinted from the *Southern California Practitioner.*]

Les bactéries et leur rôle dans l'étiologie, l'anatomie et l'histologie pathologiques des maladies infectieuses. Par A. V. Cornil, Professeur d'anatomie pathologique à la Faculté de médecine de Paris, et V. Babes, Professeur à la Faculté de médecine, etc. Troisième édition, refondue et augmentée, contenant les méthodes spéciales de la bactériologie. 385 figures en noir et en plusieurs couleurs intercalées dans le texte et 12 planches hors texte. Tome Premier. Pp. vii–582. Tome Second. Pp. 608. Paris: Félix Alcan, 1890. [Prix, 40f.]

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Enophthalmia Traumatica.—Gessner (*Arch. of Ophthal.*, xviii, 3) reports three cases of this peculiar result of external injury, and adds some remarks on the genesis and disturbance of mobility connected with enophthalmia. These cases were all observed by Nieden, who excluded the presence of microphthalmia on account of the equality of the cornea, refraction and acuteness of sight in both eyes. Nieden thought that the enophthalmia was due to atrophy of the retro-bulbar tissue, owing to strong and prolonged compression. Gessner, on the contrary, regards the orbital injury as the cause of the enophthalmia. Contused wounds of the orbital margin usually involve the periosteum and bone, and the subsequent inflammatory reaction is readily propagated to the orbital cellular tissue. He thinks that the enophthalmia is produced by the mechanical falling back of the globe into the orbital cavity, the contents of which have been reduced by cicatricial contraction of the retro-bulbar cellular tissue; and this may be aided by a certain pressure of the lids. An inflammatory participation of the ocular muscles is improbable, on account of the absence of disturbance of motility.

Two Cases of Detachment of the Chorioid after Cataract Extraction; Spontaneous Recovery.—Groenouw (*Arch. of Ophthal.*, xviii, 3) reports two cases of this disease because of the extreme rarity of chorioidal displacement. The detachment simulated very strongly the appearances of chorioidal tumor. They were probably hæmorrhagic extravasations excited by the extraction, and lying between the chorioid and sclera, bulging forward the retina and chorioid, and simulating a tumor. There was not even a simple detachment of the retina without a simultaneous detachment of the chorioid; the immobility of the tumor, the absence of varicose vessels and of any elevation or fold upon the surface, and, above all, the shimmering chorioidal pigment, necessarily pointed to a detachment of the chorioid. The cause of the detachment is to be sought in the vacuum following the sudden extraction of the lens, though probably some pre-existing disease of the chorioid is also necessary. The diagnosis between tumor and detachment of the chorioid can only be accurately made by following the case for some time.

Non-metallic Foreign Bodies in the Cornea.—Ritter (*Arch. of Ophthal.*, xviii, 3) here discusses the subject of the presence of animal and vegetable particles lodged in the cornea, and the mutual action of the foreign body and the epithelium upon each other. His first examination revealed the presence of micro-organisms. The *root bacillus* was very frequently found, and its growth, like a nerve-plexus, is so characteristic that it can not be mistaken. The *hay bacillus* is also frequent on foreign bodies in the cornea; it is as long as the root bacillus, but finer, and forms long, jointed fibers, growing in gray, round colonies, and rapidly liquefying the gelatin. Two other corneal micrococci greatly resemble the hay bacillus; one, the diplococcus cinerareus corneæ, grows rapidly, and soon liquefies the gelatin. The second, coccus cinerareus corneæ, is single, with gray, roundish colonies quickly liquefying. A large number of micro-organisms, which occur in the soil and in the air and water, also flourish on foreign bodies in the cornea. They are to be regarded here as saprophytes, and have either attained the cornea with the foreign body, or else in some manner reached the conjunctival secretion and thence remained clinging to the foreign body. They live here upon and in the corneal epithelium, and their final action is to loosen the foreign body from its seat.

Peculiar Course of a Retinal Glioma.—Hosch (*Arch. of Ophthal.*, xviii, 3) reports an interesting case occurring in a boy, aged three years and a half, whom he first saw in September, 1885. Both eyes were involved by the disease, and enucleation was therefore not advised. Six months later the child was reduced to the condition of a skeleton. The right eye protruded far forward, the cornea was opaque, and the conjunctiva red and chemotic. The sight of the left eye seemed fairly good, and the ophthalmoscopic appearances of the disease were about the same as at the first examination. The child died a month later, and both eyes were enucleated and subjected to examination, and the results are here given. The relatively slight extension of the glioma in the left eye explains the prolonged preservation of sight. The neoplasm extending from the retina into the papilla, and excavating it deeply, had evidently pushed the nerve fibers to one side, without destroying them, so that the peripheral portions of the retina still preserved some perception of objects. It was an interesting fact to observe that the tumor encroached upon the optic nerve and yet spared the retina and vitreous. The extensive proliferation of pigment here met with sharply defined the limits of the neoplasm and extended far behind the excavation into the papilla. The course of the disease in the left eye varied greatly from the common run of cases. While the disease progressed as usual in the right eye, the pathological process in the left eye clung to the neighborhood of the posterior pole without affecting the entire retina early in the disease, and detaching it from the chorioid, as almost invariably happens. It is scarcely possible that the tumor can have crossed over from the right eye through the chiasm, for the gliomatous elements would then have increased as the brain was approached, which was not the case. It must, therefore, be concluded that the disease affected both eyes, running the usual course in the right eye, while in the left it remained localized around the papilla, and then very slowly extended into the optic nerve.

Unequal Accommodation in Healthy Eyes and in Anisometropia.—Fick (*Arch. of Ophthal.*, xviii, 3) concludes from his observations that the axiom, that unsymmetrical accommodation is impossible, is false, and must be erased from the text-books on ophthalmology. Into its place steps the fact that, even under physiological conditions, the accommodation of one eye can act independently of that of the other; independent, however, only within certain limits. This unequal accommodation can only be obtained by a perceptible and sometimes a painful exertion, and the eyes only bring it into use in so far as it is indispensably necessary in the interest of the act of vision. In fitting anisometropes with glasses, three points should be considered: 1. The breadth of accommodation in both eyes singly. 2. The variation of accommodation in one eye when that of the other remains, as far as possible, unchanged. 3. The alterations of refraction needed for the least trying combined binocular reading. Fick believes that meridional asymmetrical accommodation is possible, and that the asthenopia of many astigmatics is caused by the effort to compensate for the corneal astigmatism by meridional asymmetrical accommodation.

The Cause of Senile Cataract.—Schoen (*Arch. of Ophthal.*, xviii, 3) draws the following conclusions from his investigations: 1. The process heretofore distinguished as senile cataract begins always as equatorial cataract, with fine white dots or streaks (never with clefts). 2. Nuclear sclerosis never appears without equatorial cataract. On the other hand, the statistics show three hundred and seventy-seven eyes with equatorial cataract without nuclear sclerosis. The latter is without doubt secondary. 3. Nuclear sclerosis is associated with equatorial cataract first after the age of sixty. 4. More than half (sixty per cent.) of the patients with cataract have still normal acuteness of vision, wherefore changes in the center of the lens may be excluded. 5. Anterior cortical cataract is rarely associated with equatorial cataract before the age of fifty. 6. Cataracta simplex is not peculiar to old age, but frequently occurs in its incipiency in young people from twenty to thirty years of age. The designation "senile" should therefore be dropped, and "simplex" employed in its place. 7. Three fourths of the total number of cataractous eyes are hypermetropic or astigmatic. 8. Equatorial cataract begins chiefly in the horizontal meridian. 9. The macroscopic dots and stripes correspond to the insertion of the anterior and middle zonular fibers. 10. The microscopical changes likewise are arranged around the base of these fibers.

The Degeneration of the Center of the Retina in Old People.—Hirschberg (*Ctrlbl. f. prakt. Aug.*, September, 1889) states that, when healthy people of an advanced age lose their acuteness of vision for fine objects, so that they either can not read at all or do so with great difficulty, while they still possess excellent eccentric vision and find their way about without difficulty, there will be found at the center of the fundus in both eyes small, circumscribed, bright spots of discoloration, and in some of these small crystals may be seen. The visual tests show diminution of the central acuity of vision to $\frac{1}{12}$ and even less, and a defect in the center of the visual field. The process is slowly progressive and the vision steadily diminishes. In the center of the retina are seen rose-colored spots, in which are white spots with crystals; and in the vicinity are recent, grayish-blue spots behind the vessels. At the periphery there are black spots. The change is not limited to the retinal center. Treatment is futile, but the disease does not proceed to blindness.

A Case of Detachment of the Retina treated by Schoeler's Injection Method, with Fatal Result.—Gelpke (*Ctrlbl. f. prakt. Aug.*, September, 1889) reports a distressing case of this kind occurring in a robust elderly man of sixty-six years. The detachment had occurred in a hitherto perfectly healthy eye without any known cause. Three drops of tincture of iodine were injected into the vitreous according to Schöler's method, all the steps before, during, and after the operation being carried on under the most rigid antiseptic rules. In spite of everything, an infectious purulent chorioiditis was set up in the eye, and two days later this was followed by a purulent meningitis, which caused the patient's death on the sixth day.

The Treatment of Detachment of the Retina.—Ulrich (*Kl. Mon. f. Aug.*, September, 1889) gives in detail his method of treating cases of detached retina. The first condition of a successful treatment in the first stage is rest in bed and the use of salicylate of sodium as an absorbent. In addition to this comes the pressure bandage whenever it can be borne. It should not be removed except when the patient is in bed. The salicylate of sodium should be given in sixteen-grain doses (one gramme) every hour for four or five hours, and every third day it should be omitted for a day. After the first month of this continuous treatment, the treatment is modified in such manner that the patient passes one week in every month in bed, and during this period he takes six times five grammes of salicylate of sodium. In the interval moderate exercise may be allowed.

Extirpation of the Lacrymal Gland causing Atrophy of the Optic Nerve through Hæmorrhage into the Orbit.—Gifford (*Amer. Jour. of Ophth.*, September, 1889) reports a case of this nature in a man aged sixty. History of dacryocystitis on left side for a year, with moderate stricture of the lacrymal canal and ectropium of lower lid. The upper canaliculus was slit and the usual probing and syringing treatment carried on for ten days with improvement. Then a stationary period began and lasted for several days, and it was decided to extirpate the lacrymal gland, which was done under ordinary antiseptic precautions. The incision, an inch long, was made just below the eyebrow at the outer side, and was inclosed with an interrupted suture. There was an unusually free hæmorrhage during the operation, and the bandage had to be changed twice in thirty hours, on account of oozing from the wound. When the dressing was changed the second time, the oozing had ceased, but the upper lid was so infiltrated with blood that the eyelids could not be opened. The wound healed without a trace of reaction, but the upper lid and conjunctiva were full of coagulated blood, the skin was of a purple hue, and the patient complained of a dull pain in and around the orbit. Four weeks later there was complete left ptosis, the left eye was completely motionless, the pupil was moderately dilated, the direct light reflex was absent, the media were clear, the retina was filled with hæmorrhages, not fresh, but old and partially absorbed. The vessels were small and the optic papilla was completely white. No record is made of the testing of the vision, but in the history the man states that the eye was blind.

The Restoration of the Eyelids and the Disadvantages of Cutaneous Grafts.—Valude (*Arch. d'ophthal.*, July–August, 1889) thinks that the disadvantages of blepharoplasty by means of a facial flap are as follows: 1. It may leave a second deformity much more considerable than the first if union does not take place, and especially if the flap becomes gangrenous. 2. It can not succeed if the neighboring parts consist of cicatricial tissue of feeble vitality. 3. It produces in the face seams and cutaneous folds which are shocking additional deformities. On the other hand, the advantages of this form of blepharoplasty may be stated as follows: 1. Even if the result of the operation is a failure, the consequent inconvenience is almost *nil*. No tissue is lost, and any other operation may be essayed. 2. The cutaneous graft may always be procured with the same facility. 3. No new deformity is added to the physiognomy. Valude thus voices the general opinion of the Paris Surgical Society in regard to skin grafts: 1. When the cicatricial skin is thin, elastic, shining, very dry, slightly vascular, entirely fibrous, adherent to the subcutaneous layers, or separated from them by a loose cellular tissue, skin grafting should not be attempted. 2. If, on the contrary, the cicatrix only involves the superficial layers of a thick skin, if it is furnished with a well-nourished panniculus adiposus, without adhesions to underlying parts, the skin grafting is indicated. 3. Even when the anatomical conditions are not very favorable, the cicatricial tissue may be utilized for grafts, though they must be very small. 4. Cicatricial tissue may unite by first intention with analogous tissue and with healthy tissues. 5. Cicatricial flaps are exempt from several inconvenient accidents which frequently involve those taken from healthy parts; they lie flat, do not rise above the surrounding parts, and do not swell and form nodules, as healthy skin grafts often do. 6. When the face has been greatly disfigured by a scar, and only part of it, as the eyelids, is to be repaired, it is better to employ a cicatricial graft.

The Heredity of Myopia.—Motais (*Arch. d'ophthal.*, July–August, 1889), from an examination of all the members of 330 families of young myopes, draws the following conclusions:

1. The hereditary influence of myopia is manifest.

2. It existed in 216 families out of 330, or 65 per cent.

3. Hereditary myopia is distinguished from acquired myopia by its early appearance, its rapid development, and by frequent and serious complications.

4. Myopia is usually transmitted from father to daughter (86 per cent.) and from mother to son (79 per cent.); hence hereditary myopia is crossed from the sexual standpoint.

5. The principal conditions which favor the hereditary transmission of myopia are: 1. The use of the eyes in an unfavorable hygienic environment either at school or at home. 2. Astigmatism of a certain degree (above D. 0·75), 14 per cent. 3. Microsemia or lowering of the orbital arch, 30 per cent.

6. The deduction of the exact demonstration of hereditary myopia to a great extent (65 per cent.), and of the serious nature of the affection, should be carefully impressed upon all who are engaged in the education of children.

The Extirpation of the Orbital Lacrymal Glands for Incurable Lacrymation in Cases of Granular Conjunctivitis.—Truc (*Arch. d'ophthal.*, July–August, 1889) draws the following conclusions from his observations: 1. In certain cases incurable lacrymation and granular conjunctivitis are intimately connected together, and can not be cured in any other way than by extirpation of the orbital portion of the lacrymal gland. 2. This operation immediately puts a stop to the epiphora, and causes a rapid amelioration in the granular conjunctivitis. 3. The extirpation of the lacrymal gland is of great value in incurable lacrymation, and is especially indicated in old or chronic granular conjunctivitis with stenosis of the lacrymal passages.

Anomalies of Development of the Eyes in an Epencephalic Monster, accompanied by an Orbito-buccal Hare-lip.—Panas (*Arch. d'ophthal.*, September–October, 1889) gives the following anatomical description of a rare case: 1. The orbito-buccal hare-lip results from the non-union of the embryonic lacrymal fissure. 2. The ascending apophysis of the superior maxilla, which forms such a large part of the excretory lacrymal passages, arises from the external frontal bud or boss, and does not unite with the body of the superior maxilla until much later. Hence this apophysis belongs to the intermaxillary bone and not to the superior maxilla. 3. The presence of two amniotic bands on both corneæ can not be doubted, and it is curious to note the correlation of this fact with the malformation of the two eyeballs and with the presence of a dermoid growth upon the microphthalmic right eye.

A Clinical Study of Some Sympathetic Affections of the Eyes; their Treatment by Massage of the Painful Points.—Chibret (*Arch. d'ophthal.*, September–October, 1889) presents the following conclusions: 1. There are certain sympathetic affections of the eye, especially keratitis and iritis, which have been hitherto unrecognized. 2. These diseases resist all the usual methods of treatment. 3. They may attack either the cornea or the iris. 4. They are always painful, and sometimes excessively so. 5. The essential characteristic of these affections is that the points of emergence of the supra-orbital or external nasal are very painful. 6. Massage of the points of emergence of these nerves always causes a diminution of the pain and an immediate amelioration of the sympathetic affection, no matter how chronic it may be. 7. The laceration or elongation of these nerves would probably bring about an equally good result.

The Connection between Diseases of the Eyes and Diseases of the Nose.—Despagnet (*Rec. d'ophthal.*, September, 1889) considers that many cases of obstinate lacrymation are due to trouble in the nose. In all these cases we meet with a hypertrophy of the inferior turbinated bones which compresses the end of the nasal duct and finally obstructs it altogether. When this condition is relieved the lacrymation disappears. He recommends the galvano-cautery for the treatment of this hypertrophy. Many cases of granular conjunctivitis and keratitis are due entirely to the existence of a catarrhal rhinitis. Secretions from this conjunctivitis and this form of rhinitis have been examined microscopically, and a special microbe has been discovered, which has been cultivated.

Suture of the Cornea in Extraction of Cataract.—Mendoza (*Rec. d'ophthal.*, September, 1889) thus formulates the advantages of this method of operating: 1. It absolutely prevents incarceration and hernia of the iris. 2. It avoids the irritation which is caused by prolonged closure of the lids, and, by permitting free motion to the lids, facilitates the removal of the secretions and thus keeps the eye in a more complete condition of asepsis. 3. It brings about perfect coaptation of the edges of the corneal wound. 4. The latter may thus be kept clean much more readily. 5. When irrigation of the anterior chamber is indicated it is rendered more easy and less dangerous by the possibility of half opening the wound by pulling on the thread of the inferior flap. 6. It admits of the eye being left without occluding bandage immediately after the operation, when inflammation of the lids or of the lacrymal sac necessitates frequent cleansing. 7. The prompt re-establishment of the anterior chamber renders possible the use of atropine soon after the operation without any danger of inducing hernia of the iris. 8. The patient is enabled to be out of bed soon after the operation, or, at the latest, on the next day. 9. There is no danger of reopening of the corneal wound.

The Number and Caliber of Nerve Fibers in the Oculomotorius in the New-born and Adult Cat.—Schiller (*Rec. d'ophthal.*, October, 1889) concludes from his investigations that the number of the fibers of the oculomotorius of the cat increases but little or none during life. The apparently somewhat increased number of fibers found in the adult cat is probably due to the fact that in the new-born animal some fibers are overlooked in the counting owing to their extreme tenuity, and that they are confounded with the neuroglia. The caliber of the fibers in the adult animal is from six to eight times greater than in the new-born animal. Forel adds that a continuation of these investigations will probably end in proving that the number of the cellular elements of the cerebro-spinal nervous system does not increase during life. These investigations have also strengthened the belief that there are no anastomoses, either large or small, in the nerve centers, and that each nerve fiber is but the prolongation of one cell, and ends in free arborescent filaments. This would imply a nerve force reacting from one nerve element to another by contiguity or simple proximity, the nerve fiber conducting this influence from its cellule to the point of its terminal ramification, or *vice versa.*

The Treatment of Circumorbital and Ocular Migraine.—Galezowski (*Rec. d'ophthal.*, October, 1889) strongly recommends the use of static electricity in the treatment of migraine. The attack, even at its height, disappears immediately after the application of the current, even when the sitting has lasted only ten minutes. Of course, the neuralgia must be idiopathic if any beneficial result is to be gained from electricity.

The Relative Importance of the Different Forms of Refractive and Muscular Error in the Causation of Headache.—Marlow (*Ophth. Rev.*, December, 1889) draws the following conclusions from a review of his cases: 1. Headaches are frequently the result of errors of refraction and muscular insufficiency. 2. Refractive error or ametropia is a more common factor in the production of headaches than muscular defect. 3. Defective muscular action or insufficiency is more certain to produce headache than ametropia. 4. Astigmatism is the most powerful and common refractive factor in the production of headaches; and, of the different forms of astigmatism, compound hypermetropic astigmatism is the most important in this regard. 5. A combination of insufficiency of the internus or externus with overbalance of the superior rectus is a common variety of muscular defect. 6. Overbalance of the superior rectus is decidedly more certain to produce headache than any other form of muscular defect or of ametropia. 7. A combination of overbalance of the superior rectus with astigmatism is the most powerful cause of ocular headache.

Recovery from Hemianopsia, with Subsequent Necropsy.—Doyne (*Ophth. Rev.*, December, 1889) reports a case of an old man who had a sudden attack of right homonymous hemianopsia. The fields of vision recovered in the course of two weeks, but subsequently a quadrant of the opposite side of each field was lost. Death occurred some weeks later from cerebral apoplexy. At the autopsy, in addition to the extensive extravasations which caused death, there was found asymmetrical softening on both sides of the brain in the cortex of the occipital lobe, one evidently more recent than the other.

Homonymous Hemianopsia; Recovery; Subsequent Death and Necropsy.—Anderson (*Ophth. Rev.*, December, 1889) reports the case of a man, aged forty-one, who complained of failure of vision for six weeks, with severe frontal headache, much failure of memory, and mental depression. He could not see to the right side, and his speech had altered. No loss of gross motor power or of general or special sensation, except as regards vision. The gait and reflexes were normal. The ocular and pupillary movements were normal, and the media and fundus were healthy. Vision and accommodation were normal. The right halves of both visual fields were lost up to, but not including, the line through the fixation point. Anderson concluded that the patient had an intracranial growth, situated in the medulla of the left occipital lobe, and that a hæmorrhage had taken place into the tumor recently. Within two weeks the headache and mental symptoms had much subsided, and there was only very slight contraction of the right halves of the visual fields. Two months subsequently he had a transient attack of left hemiplegia, which soon passed off. Three weeks after the occurrence of the hemiplegia the lower quadrants of the right halves of both visual fields were deficient nearly to the vertical line through the fixation point. Vision was still good, and the fundus was normal. Rapid mental deterioration ensued, and he died, demented, three months later. There was a recent blood-clot in the posterior cornu of the left lateral ventricle, with hæmorrhage and softening of the tissue external to this, involving the whole of the angular gyrus up to its surface. The angular gyrus was replaced by gliomatous tissue.

The Size of the Cornea in Relation to Age, Sex, Refraction, and Primary Glaucoma.—Priestley Smith (*Ophth. Rev.*, December, 1889) gives an account of certain facts obtained by measurement of the cornea in a large number of human eyes. The normal cornea was examined in a thousand eyes, representing all periods of life from five to ninety years. Age, sex, and refraction were noted in every case. It was found that the cornea attained its full diameter very early in life—many years before the rest of the body completed its growth. The development of the cornea is also precocious in relation to that of the eye as a whole. Classification according to sex showed a slight but probably real difference in each life period, the cornea of the male being, on the average, about one tenth of a millimetre the larger. Classification according to refraction showed the unexpected fact that the size of the cornea bears no relation to the refraction, being no smaller in hypermetropia, no larger in myopia, than in emmetropia. This was further proved by comparison of ninety highly hypermetropic with ninety highly myopic eyes. The size of the cornea is determined early in life, and is not affected by the greater or smaller extension of the posterior hemisphere which may occur later. The cornea is full grown at the age of five years or earlier. Sixty-nine persons having primary glaucoma in one or both eyes were examined. The number of glaucomatous eyes was ninety-nine; healthy eyes, thirty-two. Comparing the glaucoma group with the same life periods in the healthy group, the small corneæ formed twenty-six per cent. of the one and four per cent. of the other. Among the one thousand eyes of healthy persons, there was not one cornea so small as ten millimetres, while there were nine such in the much smaller glaucoma group. A definite relation between the small cornea and primary glaucoma was thus proved to exist. The explanation lay in an undue proximity between the lens and the surrounding structures. Further observations show that the smallness of the cornea precedes the glaucoma and is not caused by it.

How far forward is the Fundus Visible with the Ophthalmoscope?—Groenouw (*Arch. für Ophthal.*, xxxv, 3) answers this question as follows: The anterior limit of the fundus visible with the ophthalmoscope lies about 8·5 millimetres behind the margin of the cornea; in myopes somewhat farther; in hypermetropes somewhat less. The possible error scarcely amounts to more than one millimetre in all these three conditions. In aphakia this distance is reduced to 6·5 millimetres.

The Treatment of Symblepharon.—Snellen (*Ophth. Rev.*, December, 1889) describes an operation for the cure of symblepharon which has given very satisfactory results. His plan is to thoroughly free the adherent lid, leaving any conjunctiva present attached to the globe. A thin flap of skin of the required size is then dissected from the cheek, having a narrow pedicle close to the border of the lid near the outer canthus; a button-hole being made beneath this flap from the inner surface of the eyelid, the flap is drawn through and attached to the raw surface of the lid. The operation has proved of value also in enlarging a socket for the reception of an artificial eye.

A New Operation for Ptosis.—Snellen (*Ophth. Rev.*, December, 1889) has recently adopted the following operation for cases of ptosis. A ligature is passed from without inward through the entire thickness of the lid at the upper edge of the tarsus; the lid is then everted and the needle passed outward through all the tissues, except the skin, at a point near the upper limit of the conjunctival sac, and made to perforate the skin near the original puncture. The ends of the ligature are then tied over beads on the surface of the lid. Three such ligatures are employed, disposed rather toward the nasal side, on account of the position of the levator.

The Treatment of Episcleritis.—Snellen (*Ophth. Rev.*, December, 1889) recommends the injection, once or twice a week, of a solution of corrosive sublimate (1 to 5,000) beneath the swollen and thickened conjunctiva and episcleral tissue by means of a Pravaz's syringe, the eye being cocainized.

The Retinal Circulation in Anæmia following Chronic Hæmorrhages and in Chlorosis, and its Dependence upon the Constitution of the Blood.—Raehlmann (*Kl. Mon. f. Aug.*, December, 1889) formulates the following propositions as a result of investigations: 1. In most of the cases which show arterial pulsation the number of corpuscular elements of the blood is, on an average, less than in normal blood; and that the latter is in many cases markedly diminished, in others slightly, but in all perceptibly. 2. In such cases the individual blood-corpuscles are almost invariably smaller in volume than normal blood-corpuscles. 3. They are generally poorer in hæmoglobin and consequently specifically lighter, and do not sink as readily in watery solutions as do normal blood-corpuscles, and therefore move more easily and rapidly in such solutions. 4. In many cases of anæmia, which show a typical marked pulsation in the retinal arteries, all three factors exist, viz.: diminution in the number of the corpuscles, loss of hæmoglobin, and diminution in their weight and volume.

Ophthalmoscopic Appearances at the Periphery of the Fundus.—Magnus (*Arch. für Ophthal.*, xxxv, 3) draws the following conclusions from his observations: 1. The ciliary body is partially visible on ophthalmoscopic examination, and appears as a peripheral pigmented band with a radiate or shaggy margin. 2. The region encroaching posteriorly on the margin of the ciliary body is very often of a much brighter color than the rest of the fundus. In this discolored peripheral zone very many fine parallel chorioidal vessels are usually visible. 3. At the periphery of the fundus, along the border of the ciliary body, we meet with peculiar pathological foci in an otherwise normal fundus, both in young and old persons. 4. These foci appear either as small oval or circular white spots, or as a network of fine white lines, or they blend into a broad belt surrounding the entire periphery of the fundus. 5. In the region of these foci pigment is usually present, arranged with a certain regularity around the peripheral border of the diseased focus. 6. In the eyes of young persons the cause of these pathological appearances is usually found to be a high degree of myopia. 7. In a highly myopic eye the peripherical atrophic belt is a characteristic appearance. 8. Posterior staphyloma and changes at the periphery of the fundus usually appear together in most of the cases. 9. In the eyes of old people, if they are not highly myopic, these peripherical foci are senile changes.

The Ætiology of Neuroparalytic Keratitis.—Von Hippel (*Arch. für Ophthal.*, xxxv, 3) draws the following conclusions from his investigations: 1. The theory of the existence of trophic fibers running in the center of the trigeminus can not be harmonized with the results of many autopsies. 2. The purely traumatic theory of causation is untenable. 3. The theory of evaporation is capable of explaining the appearance of the inflammation in every case. 4. A diminished power of resistance to injuries does not exist. A non-sensitive eye is more exposed to desiccation from evaporation than a normal eye. 5. A wire network has the power of directly hindering the evaporation. 6. A wire guard can not, however, prevent the occurrence of inflammation. 7. A moist atmosphere hinders the appearance of neuroparalytic keratitis. 8. Micro-organisms are not always found, and can not therefore be regarded as an ætiological factor.

Miscellany.

Sound Advice for the Profession.—The following lay sermon to the profession is to be found in the preface of a curious old medical work entitled *Vade Mecum or a Companion for a Chirurgion fitted for times of peace and war, by Thomas Brugis, Doctor in Physick. London. Printed by T. H. for Thomas Williams, at the sign of the Bible in Little Britain, 1652.*

"Presume not too much on thy own wisdome and vertue, lest thou beest lifted up with a vain confidence, and puffed up with pride, for when men are carried with an inordinate and blind love of themselves, they are soon persuaded that there is nothing in them worthy to be dispised, yea, they think that their ignorance is wisdom, insomuch that knowing nothing, they suppose they know all things, and having no dexterity to performe any one commendable work, they presume very inconsiderately to set their hand to every great matter; but the more care and diligence they bestow, being let with a desire to shew great skill, and thinking to win honour and renown, so much the more they discover their ignorance and blockishnesse, purchasing to themselves shame and infamy: For a man to know himself to be ignorant, is the best science and necessary for men, that without it they cannot be truly skillfull; for as I said before, the ignorant person that knoweth not himselfe to be such an one, but supposeth he knoweth that which he doth not, indeed is as unteachable as a beast can be" . . .

"Socrates, who by the oracle was declared to be the wisest man then living, was greatly commended by the ancients, because he said he knew but onely one thing: viz., That he was ignorant and knew nothing.

"Now a word or two to the patient: Thou seest in every village a sort of Mountebanks, Empericks, Quacksalvers, Paracelsians (as they call themselves), Wizards, Alcumists, Poor vicars, cast apothecaries, and physitians men. Barbers and Good wives that professe great skill go with the name of Doctor, which title perhaps they bought at some beyond sea University, where they bestow this degree upon such people for their money; the phrase they use is 'Accipiamus pecuniam, demittamus asinum,' and so with title of Doctor Asse; away he flies into all countries possessing the people with stories and false tales, and leads them to the destruction of their bodies, if not of souls too, that an able Physitian or Chyrurgion, who hath undergone a great deal of hardship to benefit himself in his art can scarcely maintain himself, or know who shall be his patients."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

HYPERTROPHY OF THE PROSTATE GLAND.

AN ADDITION TO McGUIRE'S OPERATION.*

By ROBERT T. MORRIS, M. D.

Gentlemen: This patient, who is about sixty years of age, is suffering from an obstruction at the neck of the bladder. For more than a year he has been obliged to draw his urine with a catheter, and lately it has become a difficult matter for him to pass the instrument into the bladder. The patient has been under the care of a well-known general practitioner, who has exhausted the ordinary resources for relief in such cases, and now that the patient is suffering from an aggravated chronic cystitis, with frequently recurring septic symptoms, he asks for the adoption of radical measures for relief.

For the past two days the patient has been under preparatory treatment. His bowels have been opened freely in order to facilitate the elimination of septic products through the emunctories. Hot tobacco fomentations have been applied over the hypogastric region for the purpose of quieting the inflamed and irritable bladder, and I know of nothing else so effective. A leaf of tobacco is moistened in hot water and placed over the hypogastric region. A towel wrung out in hot water is placed over the tobacco, and over all we need some material like oiled silk or dry brown wrapping-paper, to prevent evaporation.

In order to limit fermentation of the urine, the patient has been given ten grains each of boric and benzoic acids internally three times a day, and his muddy urine has cleared up very nicely under this practical internal antiseptic treatment. In addition to the steps which have been employed in this case, it is usually a good plan to have the patient draw his urine at least once daily while he is in the knee-elbow position, for by this procedure he can remove residual urine that could not otherwise be obtained.

I will not stop to explain the differential diagnosis between tumors of the bladder and prostatic hypertrophy, but will state that in this case the lateral lobes are markedly but evenly enlarged. It is not the size of the gland that causes disturbance, but the character of the enlargement. A few men possess a series of prostatic tubules dorsad of the urethra, which form the so-called third lobe, and when we have median centric hypertrophy, a small third lobe may act as a ball valve in shutting off the entrance to the urethra. Then, again, when one of the lateral lobes is much larger than its fellow, a tortuous urethral canal must be the result, and it frequently requires much skill to pass an instrument into the bladder. In addition to the obstacles enumerated, we often find the mouths of the prostatic ducts so much enlarged that they will admit the tip of a catheter, and no one but the specialist knows what dangers await the patient if he is to have numerous examiners.

The prostate gland in various animals develops and degenerates coincidently with the testicles, and it is at about the time when the testicles normally atrophy in man that prostatic hypertrophy occurs. This condition is found in a relatively small number of men, however, and is really a degenerative process, consisting in elongation of the prostatic tubules and increase in the unstriped muscular fibers, the prostatic secretion at the same time becoming thin and watery. As degeneration continues, the tubules and muscular fibers are replaced by connective tissue, and when this process occurs in limited areas we have the so-called fibrous tumors of the prostate which are sometimes supposed to be homologous to fibroid tumors of the sister organ.

The patient now being fully under the influence of ether, I pass a double-current catheter into the bladder and wash it clean with a copious stream of Thiersch's solution (salicylic acid, gr. j; boric acid, gr. v; water, f℥ j).

The stop-cock on the discharge pipe of the catheter is then closed and the bladder fills with about twelve ounces of the solution, which is allowed to remain.

A rubber bag which will hold twelve ounces of water is oiled, slipped into the lower rectum, and then distended with air, so that on percussing the abdomen I find that the fundus of the distended bladder has been carried well above the pubes by the lifting bag in the rectum. The skin about the pubic region has been previously shaved and scrubbed with bichloride-of-mercury solution, and inserting the knife through this clean skin just over the symphysis pubis, I make a cephalad incision four inches in length. The next cut severs the tissues of the linea alba and the transversalis fascia and exposes loose fat which lies upon the bladder. This is picked up and snipped away with scissors in such a careful way that the surrounding areolar tissues are not disturbed, for we must remember that urine would enter a little rent and infiltration might lead to failure of the operation. The danger of opening the peritonæum is spoken of only by authors who have not had an opportunity to look at the peritonæum in this region. The next step in the operation consists in passing a couple of temporary sutures through the muscular wall of the bladder and fastening them to the skin in order to prevent the bladder from dropping back out of sight when the fluid which distends it runs out. The scalpel is now passed through the bladder wall at a low median ventrad point, and my finger instantly inserted into the opening prevents the escape of fluid until I can explore the interior of the distended bladder. There is no calculus to be found. Phosphatic calculi are very much commoner in these cases of enlarged prostate than is generally supposed, because various salts are precipitated when the residual urine ferments and becomes strongly alkaline. Many a practitioner is to-day baffled by a case of catarrhal cystitis in conjunction with an hypertrophied prostate, because he does not suspect that calculi have formed in the patient's bladder.

This patient has an unusually hypertrophied third lobe to his prostate, and there is no well-defined pedicle. Otherwise I should enucleate the third lobe, leave the abdominal fistula open temporarily, and expect that the patient would pass his urine by the normal route a few weeks later. It will be safer here to make a permanent suprapubic urethra. Hunter McGuire opens the bladder at the lowest available median ventrad point, and leaves open the cephalad extremity of the abdominal incision. The abdominal wound then being sutured elsewhere, we have left a fistula two or three inches in length, the walls of which are kept in apposition by the abdominal wall caudad to the external opening of the fistula, so that the patient can retain his urine or pass it at will. The suprapubic urethra in McGuire's operation is composed of cicatricial tissues, and it is difficult to tell just how far contraction will proceed, and I suppose that the region of the tract is apt to remain in a sensitive condition. In order to overcome these objections, I shall now resort to a plan which has not been tried before, so far as I know, and which may never be tried again. My original abdominal incision through the skin is lengthened two inches. A ribbon of skin and subcutaneous fat about three inches long and one third of an inch broad is dissected away from either side of the abdominal incision, leaving the caudad extremities of the ribbons attached. The free ends of the ribbons are now sutured with fine catgut to the mucous membrane of the bladder wound, each on its respective side. The temporary sutures which held the bladder up are now cut, and as the bladder drops down, it takes with it the two ribbons of skin, which lie prettily face to face, and which are to form a soft urethra of skin. Iodoform is now rubbed gently into the deep portions of the wound, because it will make a thin, firm protective coagulum with lymph, and turn aside urine that might otherwise infiltrate the tissues. The wounds of the abdominal wall are now closed with catgut, leaving room for drainage about the fistula. A short rubber drainage-tube is introduced into the bladder, and this will be left in place for forty-eight hours, the patient lying upon his side or abdomen during this time, or until plastic lymph has sealed the wound securely against infiltration of urine.

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* Abstract of a lecture delivered at the Post-graduate Medical School, May, 1890.

The patient will be given ten grains each of boric and benzoic acids internally for several days, and the urine will by this means be converted into a "healing" fluid.

Note.—Four weeks after the operation the patient had made an uneventful recovery, and all of the sutured abdominal wounds healed by primary union. The ribbons of skin now form a soft, round urethra. The patient can retain his urine or pass it at will, and he substitutes a glass drainage-tube for the penis, pressing one end of the tube against the suprapubic meatus and passing urine through it. In order to do this, he makes an ordinary expulsive effort, and no urine passes by way of the penis.

Bismuth Salts and the Odor of Garlic.—"The cause of the odor of garlic occasionally communicated to the breath of patients who are taking preparations of bismuth is said to be the presence of the metal tellurium as an impurity. The fact that tellurium gives this odor to the breath was first noticed by Sir James Simpson, who, when making trials of the salts of cerium, also experimented upon tellurium. He reports a case of a divinity student who inadvertently got a dose of tellurium which was followed by the evolution of such a persistent odor of garlic that for the remainder of the session the patient had to sit apart from his fellows. That specimens of bismuth preparations, which caused this peculiar odor of breath, contained tellurium was established in 1875. The British Pharmacopœia guards against this impurity by giving a special test for its detection in bismuthum purificatum."—*British Medical Journal.*

Original Communications.

THE GROSS ANATOMY OF CHRONIC PULMONARY CONSUMPTION

IN RELATION TO DIAGNOSIS AND PROGNOSIS.*

By J. WEST ROOSEVELT, M. D.,
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The great importance of making an early diagnosis and correct prognosis in consumption will, I hope, excuse me for adding to an already voluminous literature.

During this century two great observers have done humanity incalculable good; the one, Laennec, by enlarging greatly the possibility of diagnosis, the other, Koch, by demonstrating the essential causal factor of consumption—the bacillus. The evidence of the existence of consumption afforded by the discovery of this bacillus in the sputa is naturally absolutely unassailable. The absence of the bacteria, however, even when the examinations are made by an expert, must always leave a doubt in the mind as to whether tubercular disease may be excluded or not. There are so many important precautions to be observed before the absence of bacilli can fairly be held to exclude consumption that one must be very careful in estimating the value of negative observations; moreover, one must not waste too much valuable time in examining sputa, for it must always be remembered that not the bacilli in the sputa are to be feared, but those remaining in the lungs. Therefore, one should not give the latter a good chance to increase while looking for the former.

To exclude consumption by negative results obtained in searching for bacilli, it is necessary, first, that the examination be made by an expert with a good microscope and good dyes; second, that a sufficient quantity of sputum be obtained; third, that a very large number of observations extending over a considerable time be made. Some patients do not expectorate, and in these no examination is possible. In some the sputa are very scanty. In all, time is very valuable. Frequently it happens that no expert is at hand. By "expert" I mean a person trained by long practice to make the observations. If any one of the conditions enumerated be unfulfilled, the result is of no practical value. One must be able to rely upon the observer's skill. Any one not *frequently* making examinations of sputa is not fit to make any. The aniline dyes used must be known to be capable of staining. The lens employed must be sufficiently powerful and must be optically very perfect. The sputum must be that *coughed up*, not merely, as often happens, saliva and mucus from the naso-pharynx and mouth. It must also be as fresh as possible. Cover glasses must be thinly and evenly spread, the number examined must be very great, and each must be systematically examined so that every part is seen.

The importance of thoroughly appreciating these points is my excuse for dwelling upon them. That they are not always known to medical men almost any one who has had much experience will admit, since he probably has, at different times, received saliva, vomit, and miscellaneous dirt (such as orange-pits and many other things), all of which are called "sputa," and has been asked to pass judgment upon them. If he objects, quite often both he and pathologists in general are severely censured as useless dreamers by "the busy practitioner" who has perpetrated the outrage. It rarely occurs to the said practitioner that he may himself be at fault. It is much the same with the practical man, physician or surgeon, when he sends small fragments of something in various peculiar fluids—often most ingeniously devised, if the absolute destruction of all recognizable histological elements is desired—without any history, or with a most imperfect one, to a pathologist with a request for a diagnosis at once. He is personally aggrieved if the pathologist demurs, and he feels that pathology is not worth much after all! It would be well if the information was more widely-spread that, in general, alcohol is the best preservative for tumors, etc., and that a history must accompany the specimen, and that, for sputum, clean bottles are advisable. Then physicians would not (as has occurred in the author's experience) send tumors in blood, brine, glycerin, or carbolic acid, or send sputum in a dirty piece of toilet paper, twisted up at the ends, or an old pill box!

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* Read before the Section in Practice of the New York Academy of Medicine, May 20, 1890.

It was natural that the results of the labors both of Koch and Laennec should have been misjudged, especially in respect to their value as negative evidence. In each case their value as positive evidence was enormous, the bacillus indeed affording, so far as we know, absolute proof. Positive evidence is that naturally first sought. The history of most important additions to scientific knowledge is much the same. First the facts are made public by the discoverer. Next the truth of his statements is denied by many. Then, after a longer or shorter time, scientific public opinion admits the facts, and usually tries to fit them to all sorts of preposterous theoretical notions. Almost always the first general idea after accepting the facts is to see what they positively prove to exist. Long after this comes the question of what they do *not* demonstrate.

In medicine, where so much is vague, resting upon personal observation, the absence of anything which is positive evidence is peculiarly apt to be regarded as far too valuable negative evidence. The question, for example, presented in most cases is, "*Has* this person consumption?" not "Can you say that this person *has not* consumption?" Too often the absence of facts enabling us to answer "Yes" to the first question is regarded as justifying us in replying to the second, "He has not!". Nothing can be more irrational than such reasoning, yet it is not uncommon.

Of both Laennec's and Koch's discoveries it may be said that their value as positive evidence is so great that their importance in excluding disease has been overestimated. The work of both has also another point of resemblance since each, in his sphere, seems to have presented it completed to the world. No important fact has yet been added to the observations of either, although the theoretical explanation of these observations may be disputed. It may be added that the practical value of the work of both is not even yet widely understood. I desire to present certain anatomical facts bearing upon it.

Clinical Classification of Cases based upon the Gross Anatomy of the Lesions.

In this paper we have nothing to do with the finer details of pathological anatomy. The reader is perfectly free to regard the tubercle bacillus as the cause of the disease, or the result, if he prefer. He may, if he wishes, think that the "cussedness" of the disorder is such that it would be just like it to create a new organism to deceive men. He may speak of "catarrhal" or "pneumonic" or any other sort of phthisis; and, if he so wills, may think that the "catarrh" or "pneumonia," or what not, is sufficiently peculiar to make (in a sort of wanton pathological playfulness) things looking and acting like tubercles, and then add tubercle bacilli to these, for the further mystification of scientists. He is at liberty to believe all these or to adopt almost any other theory; but he must admit certain things if he wishes to understand the point of view of the writer. These are—

1. The discovery of tubercle bacilli in sputum furnishes positive evidence of consumption or of tuberculosis somewhere in the air passages or mouth.
2. Chronic consumption of the lungs occurs sometimes in a form in which the lesions consist of more or less distantly separated small nodules, and sometimes in a form in which there is a more or less widespread diffuse solidification of the lung. In either of these forms cavities may be found. In both, the lesion first invades, in a large majority of cases, the apices of the lungs.

The anatomical classification is adopted for diagnostic and prognostic purposes. It does not pretend to be of value to the pathologist, nor does it in the least regard the question of how the lesions are produced. It looks only at physical conditions, and the relation of these to examination by physical means. The class characterized by the formation of nodules I shall call "the discrete form." The class in which solidification of considerable portions of the lungs occurs will be called "the diffuse form." The first embraces those cases which Professor Delafield puts in the first division of the class which he calls chronic miliary tuberculosis* in his admirable study of the anatomy of consumption. It also embraces certain cases which are contained in Delafield's second subdivision of chronic miliary tuberculosis, in which, besides tubercles, there is new fibrous tissue. It is intended to mean any form of consumption in which the lesion produces but little solidification of the parts invaded. The "diffuse form," for the purposes of this paper, includes all cases in which the lesion is such as to solidify considerable portions of the lung in mass. Certain cases of Delafield's second division of chronic miliary tuberculosis are included for convenience in it just as certain lesions much more complex than miliary tubercular inflammation are included in the "discrete form." I repeat that my classification does not pretend to histological accuracy; it is convenient, I think, for diagnostic purposes.

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* Delafield, *Studies in Path. Anat.*, p. 87. William Wood & Co., New York.

The Discrete Form presents itself, in New York at least, very often to the observer. In it we find scattered nodules varying in size from that of the conventional millet-seed to that of a pea. These nodules are separated by lung tissue, which is physically normal or emphysematous—*i. e.*, capable of expansion and contraction and of causing air-currents in the same way and under the same physical circumstances as healthy or as emphysematous lung. In advanced cases the nodules may break down and form cavities, usually of small size. When the nodules become sufficiently numerous the lung is practically solidified; but this occurs only late in the course of the disease.

With the formation of discrete nodules there is usually more or less bronchitis and pleurisy. There is also commonly some emphysema, generally of the kind called "compensatory." This emphysema is, it seems to the writer, an example of what he believes to be rare in most other conditions—dilatation of the air-vesicles and passages caused by mechanical over-distension. It seems very probable that as the elasticity of a larger or smaller part of the pulmonary parenchyma is destroyed by the growth of new tissue, the thoracic expansion causes a negative pressure in the parts not affected, which is much greater than normal. Let us suppose that one third of the parenchyma of a lung is, by reason of this solidification in discrete nodules, rendered non-elastic and impermeable to air. Let us disregard the other lung or suppose that one third of it is similarly affected. If the expansion of the chest is the same as in health, then the permeable vesicles must during inspiration dilate one third more than in health. The fact that emphysema is frequently limited to those portions of the lung near the nodules is explained by the pleural adhesions, which cause that part to follow closely the movement of the nearest ribs. If there were no such adhesions the emphysema would be more evenly distributed throughout the whole lung. The chest movement is actually, of course, more or less restricted in these cases. The assumption that it is normal is only made for the sake of simplicity.

Besides this mechanical cause of the emphysema, it is possible that some obstruction to the circulation is produced by the nodules and that atrophy from lack of nutrition results. In certain cases, of course, the tubercular process takes place in lungs already emphysematous, for emphysema does not protect from consumption.

The Diffuse Form.—In this class the important clinical fact is that consolidation of the lung tissue occurs and produces, at a much earlier stage than in the discrete form, recognizable physical signs. It has another important clinical distinction in a large number of cases; the physical signs correspond pretty closely to the patient's actual condition and give a much more accurate idea of the severity and progress of the disease.

The consolidated tissue consists sometimes entirely of dense connective tissue. Sometimes patches of coagulation necrosis, diffuse tubercle, interstitial pneumonia, broncho-pneumonia, and peribronchitis are mixed in varying proportions in it. In advanced cases cavities form. With this, as with the "discrete form," there is usually bronchitis and pleurisy, the latter causing adhesions between the pleural surfaces.

The Discrete and Diffuse Forms contrasted.—The clinical value of the classification, temporarily adopted, is that it recognizes the existence of cases in which the physical signs bear no relation to the extent of the lesion—cases, moreover, in which the bacillus is very likely not to be found, at an early period, in the sputa.

In some of these there is at first no expectoration, and therefore the bacillus is not to be discovered. In some the expectoration is scanty. As the nodules in which the bacilli grow are scattered (and frequently not in direct communication with the air passages), it may easily happen that for a long time no bacilli are expectorated. The discrete form furnishes cases fondly believed by many laryngologists to be examples of primary tubercular disease of the larynx. It has also furnished to the writer some cases which he thought to be broncho-pneumonia, and some which he supposed were substantive emphysema. It has also caused much doubt in regard to diagnosis, both in its earlier and later stages. At the present time the bacillus (unfortunately often too late) may give evidence unimpeachable of the disease. So far as the writer has observed, bacilli are found sooner or later in every case properly examined.

The "diffuse form" not only is apt to give fairly marked physical signs at an early date, but also (as the consolidation is accompanied by considerable liquid exudation, which soon enters the bronchi) at an earlier date are the bacilli apt to appear in the sputa. They are also apt to be more abundant from the first.

To illustrate, let us suppose that there is in the right upper lobe a lesion of the "discrete form." The lesion we will say consists of nodules scattered throughout the upper third of the lobe, each nodule not more than an eighth of an inch in diameter, and the average distance between them about half an inch. Let us also say that the nodules are closer together at the extreme apex and more widely separated lower down, and that there is enough pleurisy to have caused adhesion of the pleural surfaces at the extreme apex. Let us suppose that there is as yet little softening of the nodules and but slight bronchitis, though there is some emphysema between the nodules.

The anatomical form of this lesion is such that the only physical signs in very many instances would be very slight dullness, with some prolongation of the expiration, and usually some exaggeration of the intensity of both respiratory murmur and voice, or perhaps diminished percussion resonance or slightly tympanitic resonance. The pleural adhesions might or might not give audible evidence of their existence. If they did, when one thinks of the numerous cases of non-phthisical people who are found, post mortem, to have such adhesions, this evidence becomes of little value.

As there is normally over the right apex of many people slight relative dullness, and all the other peculiarities noted, it is very hard positively to estimate the value of any of them.

The bacillus may help us in such a case, *if found;* but it is precisely in such a case that it is most difficult to find. The sputum is scanty or absent. The bacillus is discharged in small numbers, if at all.

These cases are not rare, and the recognition of this serves to emphasize what is probably the most important fact in connection with early diagnosis—namely, that physical examination and negative microscopical examination are to be regarded only after careful study of the clinical history. Percussion and auscultation and the microscopic examination may reveal nothing, yet commencing consumption may be safely assumed to exist from the evidence of the patient's history and general appearance. Much that was written by Walshe so many years ago in regard to early diagnosis is as true to-day as ever, in spite of the great advances of the last few years.*

I have said that the disease "may be safely assumed to exist." This sentence hardly expresses my meaning, though it does state the exact facts. My meaning is that cases occur not infrequently in which tubercle bacilli can not be discovered, and in which physical examination of the chest gives none or very vague abnormal signs; yet *it is the duty of a physician to make a diagnosis of consumption*, and to take proper measures for treatment, no matter at what cost. The chances of consumption being the trouble are so strong that the physician should risk his own reputation, and perhaps cause much inconvenience and pecuniary loss to the patient. Just as it is the duty of a physician to conceal his fears, possibly at the risk of his reputation, in many cases where symptoms are present which may indicate disease (as in glycosuria in pregnancy, for example), but where the chances are very great that these symptoms are merely transitory and unimportant, so is it his duty, when the chances are very great that serious disease exists, to state the facts plainly and truthfully, and, in the case of consumption, even to alarm a patient needlessly, rather than to let him die (equally needlessly) while waiting for positive evidence.

The Discrete Form in Relation to Physical Signs.—In its earliest stages the changes produced by this form are such as to cause but little variation from the normal physical condition of the lungs. The nodules are not large enough, nor are they near enough together, to produce a change in the percussion note sufficiently marked to be recognized. Sometimes they cause slight dullness. Often their presence is indicated only by a note which is more tympanitic than pulmonary in quality, but not always, as far as the writer can judge, higher pitched. This note resembles closely the sound produced by percussion over the patient's trachea. The tympanitic quality of tone heard in some cases over a consolidated and compressed lung is, in the writer's experience, the same as the tracheal note. It is fair to assume that in many instances this type of note is really produced in the trachea, and that the physical changes in the lung are such as either directly to transmit the force of the blow struck to the trachea, or perhaps the scattered nodules, with the altered lung elasticity and altered air capacity together, form a body which resounds in unison with the air in the trachea and large bronchi without modifying very much the note of the latter.

Whatever be the explanation of the phenomena, we find in the early stages of this form of the disease sometimes one sometimes another of the following percussion signs: Dullness, normal or exaggerated pulmonary resonance, or vesiculo-tympanitic or tympanitic resonance, or the cracked-pot sound. The pitch over the affected area may, when the resonance is pulmonary in quality, be higher or lower or the same as that over the corresponding part of the unaffected lung. Later in the disease the increasing number of nodules usually gives rise to dullness more or less marked.

Both vocal resonance and fremitus bear little relation to the percussion note, or indeed to each other. The voice is a poor help in diagnosis in such cases, and should be received only as evidence which gives some weight to other signs.

The respiration is, when bronchitis or pleurisy are very slight or absent, quite often normal. Probably prolongation of the expiratory sound with slight rise in pitch is the earliest recognizable sign. Sometimes there is simply an exaggeration of both inspiratory and expiratory sounds. Sometimes both are feeble and sometimes both are normal. With sufficiently closely grouped nodules the breathing is apt to become somewhat bronchial in quality, and, when the nodules are numerous enough practically to solidify a considerable part of a lobe, the type is often purely bronchial. In certain cases the breathing is cavernous or amphoric, and yet no cavities exist. The latter, when present, may, of course, give bronchial, cavernous, or amphoric breathing.

The presence of pleural adhesions sometimes gives rise to special signs and sometimes does not. In certain cases it seems quite possible that such adhesions cause the so-called "cog-wheel" or "wavy" respiration. In others they may produce—they certainly are coexistent with—fine dry or moist râles. Sometimes, also, they seem to produce "friction," or "stretching," or "tearing" sounds. So often in early cases are the adhesions near the summit of the lung (where relatively little gliding motion of the pleura takes place) that it is easy to understand how frequently their existence is not possible to demonstrate during life.

To the writer the absence of signs due to pleural adhesions, especially near the apices, is perfectly comprehensible. Not so clear, in spite of the positive statements of many observers, are the reasons why many signs, supposed to be produced by these adhesions, should really be caused by them. Why the type of subcrepitant râle, for example, which sounds like the bursting of fine bubbles, should ever be produced by the stretching of tissue, moist or dry, which not only contains no air but is not in contact with any, is not easy to explain. True, there is no positive evidence that the bubbling sound is really produced in the substance of the adhesions. It may be, as some think, in the neighboring lung; but this also is not positively demonstrated. The sound of this type of subcrepitant râle is fairly closely imitated if one listens to the noise caused by rubbing together two pieces of glass moistened with saliva containing air-bubbles. If the bubbles be carefully excluded there is no râle heard. It has not been demonstrated, as far as I know, that any bubbling sound is actually produced by stretching any elastic substance, whether dry or soaked in fluid, while this substance is placed under conditions which absolutely prevent the aspiration into its tissue of bubbles of air or other gases. There is room for much study upon this subject. It sounds at first plausible that an increase of serum in the pleural adhesions will produce this sound. Yet, we hardly know that it ever does. Neither can we say positively that it does not.

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* See Walshe, *Diseases of the Lungs*, 4th edition, 1871, p. 475 *et seq.*

The mechanical results of pleural adhesions, so far as the lung and chest movements are concerned, are, first, that the gliding of the pleural surfaces is more or less restricted over a larger or smaller area; second, that this restriction probably modifies somewhat the direction of expansion of the entire lung as well as those parts of it near the adhesions; third, that in some cases the new tissue forming the adhesions by its contraction tends more or less to deform the chest and restrict its motion, and also to deform the lung.

In spite of very widely distributed and firm adhesions, however, it is possible for the lung seemingly to do its work as well as usual, and no symptoms whatever indicate firm, even complete, union between the pleural surfaces. Complete obliteration of the pleural or of the pericardial cavities is perfectly compatible with apparently undisturbed function of lung or heart. It seems as though the mechanical advantage of these lubricated surfaces, permitting freer movement of the contained organs, is sufficiently great to cause them to remain in the evolution of the race, but not great enough to make them necessary to each individual. In the wonderfully balanced collection of what are, after all, but makeshifts called the human body, the heart or lung crippled by adhesions, is still often able to work well enough to keep the rest of the organs going.

If, in addition to the nodules, there is enough bronchitis, signs of this alone may be found. Signs of bronchitis, with or without emphysema, upon one side of the chest are valuable evidence of consumption. Bronchitis upon one side probably never occurs unless there be some local cause. Especially suspicious are such signs in a young adult who gives a history of cough lasting for some time, with other rational symptoms of consumption.

When the nodules become sufficiently numerous to crowd one another pretty closely, the lung is practically solidified, and the signs become those of solidification. In such instances, however, the disease is far advanced.

It is evident that in this form the physical signs bear but little relation to the extent of the lesion. The diagnosis in early cases must be made without too much regard for the signs. Of the prognosis the same is true. The bacillus also is frequently hard to find. In the patient's general condition and history we have the indications upon which both diagnosis and prognosis must rest.

The Diffuse Form and its Physical Signs.—In this form the solidification of considerable parts of the lung makes the recognition of the disorder in very many cases quite easy. The signs of consolidation become marked quite early. These are well known, and it is not worth while to repeat them in detail. The consolidation gives signs which fairly indicate the progress of the lesion. The bacillus is generally easy to find in the expectoration.

Summary and Conclusions.—1. For clinical purposes we may describe a discrete and a diffuse form of consumption.

2. The discrete form is not at first easy to recognize, since abnormal signs often are absent and the bacillus absent or hard to find. The physical signs in this form are not to be regarded as of value in prognosis, while in the diffuse form they are fairly trustworthy.

3. The diagnosis of commencing consumption must be made from the patient's history, quite as much as from physical examination of the chest or sputa. If we wait too long in order to become certain in diagnosis, we also quite often permit our patient to become certain to die. It is better far to run the risk of making an incorrect diagnosis by concluding that the disease exists when it does not than to run the risk of jeopardizing, or possibly needlessly sacrificing, a life for fear of a diagnostic error.

32 East Thirty-first Street.

SUPPURATION OF THE ANTRUM OF HIGHMORE.*

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Although a complete description of the maxillary antrum was given by Nathaniel Highmore as early as 1601, it was not until two centuries had elapsed that the diseases occurring within the cavity began to attract the attention of surgical writers.

In 1846 there appeared in the published report of the clinical lectures in surgery, delivered at St. George's Hospital by Sir Benjamin Brodie, the first clear and detailed description of diseases of the antrum of which we can find authentic record. In this report the description of "inflammation dependent on local causes, inflammation independent of local causes, collection of transparent fluid in the antrum, polypi of the antrum, and malignant tumors of the antrum," is given in a manner which shows familiarity with the diseases based upon personal experience.

The situation of the antrum of Highmore or the maxillary antrum is found to vary even on different sides of the same face. In general terms, its floor is said to extend above the alveolar process from the second bicuspid tooth backward. Projecting into it are several conical processes corresponding to the first and second molar teeth, and in some cases it is perforated by the roots of these teeth. The antrum is occasionally subdivided by incomplete bony lamellæ, and it is lined with mucous membrane continued from that of the nasal cavities. Its bony walls are thin, particularly the orbital plate, the nasal wall, and the facial wall, above and between the first and second molars and immediately above the canine fossæ. Located in the upper and anterior part of the middle meatus of the nose, and concealed from view by the middle turbinated body, is the hiatus semilunaris which communicates with the frontal cells and the ostium maxillare.

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* Read before the Illinois State Medical Association, May 9, 1890.

The term suppuration or empyema of the antrum is used to designate a condition characterized by the formation of pus on the surface of the mucous membrane lining the maxillary sinus. The pathological changes which take place in the mucous membrane of this cavity during the continuance of the morbid process do not differ from those which occur in similar membranes under like conditions.

Causes.—The proportion of cases from dental complications to those from other sources is as yet an undetermined question. A large percentage of those which fall under the observation of the dentist owe their origin to diseases of the dental arch, whereas these disturbances play a more secondary part in the cases which are met with by the rhinologist. Bosworth contends, and with apparent cause, that hypertrophy of the middle turbinated body and other obstructions to the ostium maxillare will interfere with the outflow of the secretion, the accumulation of which, in a closed cavity, results in a purulent discharge. Among other causes are tumors within the antrum, blows upon the cheek, injury to the teeth, and division of the infra-orbital nerve. Observation on the subject has led me to ascribe to the disturbance to health which we call "taking cold" a more prominent position in the list of causes than is generally allowed to it.

A tabulated statement shows that out of twenty-one antra which were involved, nine were considered to have been of this origin. These cases were under observation from their commencement until relieved by treatment. A majority of the patients had been under my professional care prior to the antral disorder, and hence I am able to state positively that there was no evidence of a former suppuration. There was one point, however, which may be worth mentioning as possibly having exerted some influence over the production of the inflammation—namely, the prevalence of the epidemic of *la grippe*. In two of the cases suppuration followed directly upon an attack of this disease.

The lining membrane of the antrum participates in the inflammatory process resulting from catching cold in a similar manner to that of the Eustachian tube. After the cold has passed, the inflammation and suppuration, should it have reached that stage of purulency, may disappear, and the membrane return to its former condition, minus a certain amount of its normal ability to withstand such disturbances. Repeated attacks of this nature soon lead to the chronic form of the disorder.

Symptoms.—Should the inflammation be acute, there will be pain and tenderness with a sense of weight and fullness over the antrum and with pressure up against the eye, hyperæmia of the ocular conjunctiva, and sensitiveness of the teeth, especially noticed on masticating. The pain is increased by stooping over, and is worse in the morning.

If the inflammation owes its origin to dental complications, the symptoms indicative of these disorders are added to the above; or if it be the nasal mucous membrane that is affected, those of the coryza are also present. Should the natural outlet of the sinus become closed, as it frequently does from swelling of its lining membrane, the pain increases and the face is more tender.

The formation of pus, which is announced by a chill, causes distension of the walls, which may produce disturbance of vision by pressing on the orbital plate, and a tumor-like projection forms over the thinnest walls. Unless surgically relieved, spontaneous evacuation takes place. If the natural opening of the antrum into the nose remains free, the pus finds a ready outlet through this channel, and the irritation caused thereby to the delicate mucous membrane may produce an obstinate turgescence of the turbinated bodies and occlusion of the nasal passage. The purulent discharge will either gradually diminish and finally, in the course of a few days, cease altogether, as is witnessed sometimes in coryza, or it may continue in diminished quantity, and all symptoms of a painful nature disappear. The latter is more apt to occur in cases from dental complications. The discharge now takes place into the nose at intervals during the day, particularly shortly after arising from bed in the morning, or on stooping over; also when lying down if the position of the head be changed, as on turning from the affected to the sound side. In this (now chronic) form of the disease, although turgescence of the turbinated bodies seldom occurs from the irritation produced by the pus, yet it has been observed to exist in a very persistent form. And that hypertrophy may thus be brought on, or an existing hypertrophy aggravated, I can bear personal witness to. I therefore believe that the hypertrophy of the middle turbinated body, and possibly the polypoid growths so often seen in connection with chronic empyema, are rather a result than a cause.

When the dental arch has been the cause of the purulency, the pus is of a very offensive odor, the opposite of what prevailed in several of the acute cases reported in my table from catching cold. Extension of the disease into the neighboring cavities, and even death, has been noted among the rarer events.

Diagnosis.—In acute suppuration we are so aided in the diagnosis by the history of the case that, with ordinary care, the disorder can readily be recognized. In chronic empyema a discharge which is influenced by position is observed by the patient to come from the nose. By carefully inspecting the nasal cavity we shall often find pus; it may be but a thin film on the anterior and inferior part of the middle turbinated body, or between it and the outer and inner wall. When wiped away, fresh pus can occasionally be made to appear by changing the position of the head or pressing upon the thin walls of the antrum.

Voltolini's method, as described and brought to greater perfection by Heryng, is of undoubted value. It is employed as follows: The patient is placed in a room made absolutely dark and a small Edison incandescent lamp of about four candle power, which has been connected with a battery and fastened on the upper surface of a tongue depressor, is put in the mouth. The lips are now closed and the current of electricity turned on, so that the lamp may glow to its full intensity, whereupon the bones of the face will become beautifully illuminated, a darker shade marking the situation of the antrum. Should there be fluid or a tumor within the cavity, the fact will become apparent by total absence of the illumination, and the marked contrast with the healthy side.

The water rheostat made by McIntosh & Co., of this city, or a thirty-two-candle incandescent lamp, used in the circuit with the Edison current, has enabled me to carry on my experiments satisfactorily.

A more simple test, and one upon which full reliance can be placed, is made with the peroxide of hydrogen used as follows: Cocaine having been freely applied to the middle turbinated body and the mucous membrane of the nasal cavity until thoroughly anæsthetized and contracted, a small hypodermic syringe, with a long cannula bent within a quarter of an inch of the distal end to a right angle, is passed into the hiatus semilunaris and a solution of peroxide of hydrogen (one part to twelve parts of water) is injected into the antrum. If pus be present, it is driven out and fills the nose as a white foam. That the solution has entered the antrum will be made evident by the patient complaining of slight pain at the roots of the teeth and a sense of fullness in the cheek. I know of no test so simple, free from danger, and easy of application, and yet so unfailing as this. By its means I have been enabled to diagnose empyema of the antrum where the only symptom was a slight discharge of pus in the nasal passage. In one instance, where the antra were pronounced healthy by a consulting surgeon, a subsequent operation confirmed the opinion of suppuration I had been induced to hold after the application of this test.

By the proper use of the peroxide of hydrogen one can satisfactorily differentiate between purulency of the maxillary sinus and the other hidden sources of pus which is discharged into the nose. Should the ostium maxillare be occluded and we be unable to inject the antrum, the symptoms of distension would soon set in and give undoubted evidence of that condition.

If it be deemed necessary to make an exploratory puncture, the difficulties which may arise from the plugging of the cannula, the thick bone, the abnormal conditions of the inferior turbinated body, the different positions of the antrum, and the danger of breaking the instrument, will cause one to hesitate before attempting it in the inferior meatus through the nasal wall, and to give preference to perforating the facial wall above the alveolus with a small drill.

Treatment can occasionally, particularly in acute cases from coryza, be advantageously carried out through the natural nasal opening by means of the cannula spoken of under the head of diagnosis, using diluted peroxide of hydrogen in preference to other remedies. But a majority of the cases will require surgical treatment in order to evacuate the antrum and give it free drainage. Much has been written in late years as to the best method of accomplishing this.

Mickulitz recently revived the practice of entering the antrum through the nasal wall, but the operation, for obvious reasons, seems destined to again become obsolete.

The operation which to-day stands in greatest favor among both dentists and surgeons, and which I shall presume to discourage, is that of entering the antrum through the alveolus. Regarding it, Voltolini, quoting Walb,* advises the opening to be made through the alveolus, and considers this situation of such importance as to advise the pulling of even a sound tooth in order to carry out this recommendation. Bosworth † advises that the artificial opening be made in the same situation.

Dr. W. Carr, ‡ of New York, says: "I should never hesitate to make the opening through the alveolus even at the sacrifice of a sound tooth."

Dr. J. H. Bryan # is equally explicit: "The operation that has met with the most favor is that known as Cooper's—viz., through the alveolar process. In case a molar tooth is present, it should be extracted and the opening enlarged."

Garretson ‖ says: "The second molar tooth is to be extracted and penetration of the cavity effected through the alveolus of the palatine fang."

After such evidence in favor of the operation through the alveolus and without reference to other authority, we should seriously consider the question as to the most advisable position for the opening to be made into the antrum before we condemn that which has the support of men of experience and which has endured the test of time, and offer in its stead an operation which, to say the most of it, has but the result of a few cases in evidence of its claims for superiority.

The prime object of opening the antrum is to give it free drainage and to enable us to medicate its diseased mucous membrane. The latter of these indications is easy to accomplish, and the former only requires that the aperture be made in the most dependent portion of the sinus; but does drilling through the alveolus from below upward always secure this? Anatomists agree that there are several conical processes projecting into the antrum corresponding to the first and second molar teeth, one of which is generally sacrificed in the operation. When the tooth is removed the projection remains in the floor of the antrum, and if we penetrate the thin plate forming it and enlarge the opening, as is advised by writers on the subject, the base of the elevation remains and offers an obstruction equal to its height to the complete and thorough drainage of the antrum. This objection may be considered chimerical, yet we are justified in assuming it to be one which may exist if we hold the statements and drawings of anatomists correct, and as yet we have no reason to doubt them.

This may possibly have been the cause of failure to check the formation of pus in some cases reported in medical literature.

A plug retained in the artificial opening will maintain its patulency and exclude foreign matter, but it will also interfere with complete drainage. It, however, will serve to bring about good results if the case has not been one of long duration. A tube of metal will be required in the more chronic cases, but the use of this when placed through the alveolus from below is an annoyance to the patient, and he may fail in his endeavors to keep foreign matter from entering it.

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* See Voltolini, *Krankheiten der Nase.*

† See *Diseases of the Throat and Nose*, Bosworth, p. 478.

‡ Diseases of the Antrum. *Journal of the Am. Medical Association*, December 21, 1889.

# Diagnosis and Treatment of Abscess of the Antrum. *Journal of the Am. Medical Association*, October 5, 1889.

‖ *A System of Oral Surgery*, p. 757.

Modern dental surgery has taught us to value a dead tooth, and even a root, provided it is not causing irritation, and hence it appears to be our duty not to lightly sacrifice them for any purpose when the same end can be accomplished by other means.

The operation which I prefer is that of opening the antrum in its most dependent portion, but through the upper part of or immediately above the alveolus, as follows: The mucous membrane having been locally anæsthetized, an incision is made into it or a small piece is cut out with a tubular knife just below the gingivo-labial fold between the upper portions of the roots of the second bicuspid and first molar teeth. A drill, preferably driven by an electric motor, is entered at the point of incision into the soft tissues and directed upward, inward, and slightly backward, forming an angle of about forty-five degrees with the plane of the alveolus. A few revolutions will send the drill into the antrum at its most dependent portion. The opening thus made must be of sufficient diameter to admit of thorough cleansing and draining. A gold tube is to be well fitted so that the distal end will enter just within the antrum, and to the other end projecting beyond the mucous membrane a small strip of gold is attached and fastened to a collar around the tooth. By this method we have free drainage without the danger of foreign substances entering the antrum, and plugging the tube is not necessary. I find that cases so treated have invariably done better than those where the opening had been made through the alveolus from below, and, as the operation is free from any of the objections made to the latter, I urge its trial and condemn the extraction of a sound or even of a diseased tooth for the purpose of entering the antrum.

The after-treatment consists in daily or twice a day washing the cavity with a saturated solution of boric acid and occasionally injecting iodine, sulphate of zinc, or subnitrate of bismuth.

A summary of the nineteen cases which have come under my observation during the past eighteen months shows, of twenty-one suppurating antra, that nine were due to "catching cold," eight were due to dental complications, one was due to polypi of the antrum; two, cause doubtful, and one, unknown cause. Fifteen were diagnosticated by the assistance of peroxide of hydrogen. Three were cured, and one is now under treatment by medication through the natural nasal opening. In ten the antra were opened through the upper part of the alveolus below the gingivo-labial fold. In two a tooth was first extracted, and in four a tooth had been extracted at a prior date and the opening made through the alveolus from below. One patient refused treatment; one is now under treatment.

126 State Street.

INJURIES OF THE HIP AND ABSORPTION OF THE NECK OF THE FEMUR.*

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The injuries of the hip that result in fracture are well known; the fractures thus produced in their various aspects have been so much discussed and written about that their literature is one of the most voluminous in the history of practical surgery. On the present occasion I wish to call your attention to one of the consequences of injuries of the hip that has been but little discussed or written about, and which is nevertheless one that has exercised an unrecognized but potent influence over the progress of all lesions about the head and neck of the femur. I refer to absorption of the bony tissues of the femoral cervix, the result of injuries—a lesion not necessarily preceded by fracture, but one that may occur as a consequence of contusions of the hip.

That this lesion has been recognized is well known to all familiar with the writings of Benjamin Bell and George Gulliver. Within recent years Richard Quain, in his *Clinical Lectures*, has set forth this peculiar consequence of injuries of the hip in a lucid manner, and illustrated its morbid anatomy with great success.

A brief review of two of the earlier cases will fitly introduce what I shall have to say on the subject. The first case is from the *Edinburgh Medical and Surgical Journal*, No. 128, for July, 1836; the second from the same periodical, No. 129, for October, 1836; both are contributed by Mr. George Gulliver, and, in the number last named, the morbid appearances are illustrated in excellent style.

"J. Fox, aged thirty-two, after a service of eight years in the West Indies, died of phthisis, for which disease he had been two years under treatment in hospital. A long time after his confinement it was noticed that his right inferior extremity was emaciated, but there was no note of any affection of the limb previous to his admission into hospital. At the post-mortem the right inferior extremity was found by measurement to be at least an inch and a half shorter than the other, and the extent between the pubis and trochanter of the affected side was diminished in a corresponding manner. The limb was much emaciated, but its position was natural, and the motions of the coxofemoral articulation were not impaired. Having removed the upper part of the femur, I found the neck absent. The head was flattened and expanded considerably; it was approximated to the shaft, so as to be situated much below the great trochanter. A section of the part was made, when the upper and lower shell of what remained of the neck was seen to be formed of compact bone, quite equal to the ordinary thickness in this situation, and the reticular texture of the bone was more dense for some distance from the edges, so as to form an indistinct line on either side of the most contracted part toward the center. The cancelli were filled with caseous matter, in some places nearly colorless, in others tinged with dark grumous blood. The acetabulum was diminished in depth, but enlarged laterally, so as to correspond with the altered shape of the head of the thigh bone. The cartilage of the articulation presented throughout its usual thickness and consistency, and was generally smooth and lubricated with synovia. I examined the other thigh bone and found its form and condition in every respect natural. I now sought information concerning the history of the case from some of Fox's comrades, who had served and come home with him. From them it appeared that Fox had received a fall about three years before in the Island of Nevis, in consequence of which he often complained of pain about the hip, but continued to do his military duty many months after, never having been confined on account of the accident. The morbid parts described in this case are preserved in the Museum of the Army Medical Department."

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* Read before the Society of the Alumni of Bellevue Hospital at its first annual reunion.

"John Lynn, aged nineteen, a stout, active recruit of the Thirty-eighth Regiment, fell into the hold of the ship in which he was proceeding to join his corps in India, and injured the right hip, in consequence of which he was confined to his berth. On his arrival in India, about three months after the accident, being perfectly well, he was attached to the light company of his regiment. He continued to perform the active duties required of him in this company for about three years after the accident, when he became very gradually lame in the injured limb and was accordingly admitted into the hospital. When he had been about eighteen months under treatment, the infirmity increasing, he was considered to be unfit for service. His general health had been throughout good, and he was accustomed to move about with the assistance of a crutch, but he was so much addicted to the drinking of ardent spirits that it was deemed expedient to retain him in hospital until he could be brought before the annual invaliding committee. While detained for this purpose he was bit during the night by a snake (*Bumgarus lineatus*), from the effects of which he died in a few hours, being then twenty-four years of age.

"The hip joint presented to the Museum of the Army Medical Department, by Dr. Dempster, exhibits remarkable shortening of the neck and enlargement of the head of the thigh bone, with suttable change of form in the acetabulum. The head of the bone is enlarged principally around its inferior border as if from expansion, its upper and front part being flattened, so that the articular surface extends anteriorly close to the shaft, while the neck presents a greater extent posteriorly. The acetabulum is much widened and remarkably shallow, corresponding to the alteration of shape in the head of the bone. A section made in the usual direction through the upper part of the thigh bone exhibits the center of its neck hardly half an inch long. There is no appreciable diminution in the density or strength of the bone; and the compact shell of the neck, as well as the cancellous structure, appears throughout perfectly natural. The articular cartilages, as far as can be ascertained from a dry but imperfectly macerated preparation, appear of the usual thickness, without a trace of ulceration."

I will now recite certain facts in the history of a case that has long been under my observation:

A gentleman, forty-seven years of age, a native of Ohio and a life-long resident of Cleveland, while on his way to his place of business in December, 1886, slipped and fell, striking on the right hip with sufficient violence to make a decided ecchymosis over the trochanter major. Although suffering much pain, he continued his journey and attended to his usual vocations. The only change he felt compelled to make was to ride to and from his place of business during the ensuing week. The limb was sore and weak during this interval, and over the bruised region felt very tender. At the end of that time he was awakened one night by violent pain in the knee; this was so severe that he remained in bed the following day. The next morning he was able to go to his store as usual, and since then has not lost an hour from business on account of pain in or defect of the limb. In May, 1887, he noticed that he was wearing off the back of the right pantaloon leg, and became conscious of a slight halt in his gait. He then fell under my observation. In answer to my inquiry, he said that every night the leg was weak and a trifle painful, that before the injury there was never the slightest defect in his limbs. In May, 1887, careful measurements revealed between half an inch and an inch shortening; the right thigh was three quarters of an inch less in circumference than the left. No difference was perceptible in measurements between the top of the trochanter major and the lower end of the femur on the right and left side; or, with the limbs extended, between the trochanter major and the malleolus of the fibula on either side. But there was a decided difference on the two sides when measurement was made between the crest of the ilium and the trochanter—and the whole of the shortening on the right side could be accounted for by the approximation of the right trochanter to the iliac crest. At this time the motions of the hip joint were unimpaired, and no tenderness was apparent when the joint surfaces were forcibly approximated in different positions of the limb. The range of motion of the thigh was limited in but one direction—the limb could not be abducted to the same extent as the left. There was no eversion of the right foot. He called for an opinion as to the nature of his injury and its future progress, he then contemplating a suit for damages against the property owner in front of whose premises he fell—a suit that was never brought, owing to advice received from counsel.

This gentleman has been under my observation ever since. I have recently repeated my examination, and his present condition is as follows: There is an inch and a quarter difference in the circumference of the two thighs; an inch and a half in the length of the two limbs, located in the upper end of the right femur. The motions of the thigh are now restricted in every direction, particularly so in abduction. Within a circumscribed limit, however, he can flex, extend, abduct, adduct, and circumduct the limb as well as ever. With the limb straight he can neither invert nor evert it to the same extent as its fellow, and when lying on his back the right foot seems somewhat everted. After exertion there is a sense of weakness in the limb, and at all times a decided halt in his gait, but he is free from pain and can walk to and from his place of business without distress. In short, he is weak and lame in the right lower extremity, but otherwise well.

Quain admirably summarizes the morbid anatomy of this lesion. The changes involve the neck and head of the femur and acetabulum of the pelvic bone, and are indicated by comparison with the bones of the opposite side in their natural state. The head of the femur is expanded and flattened, and shortened as if thrust down. The regular arrangement of the arches of the cancellated structure is no longer apparent, the joint surfaces are not inflamed, the cartilaginous investments are intact, and the peculiar lesions of chronic rheumatic arthritis are absent.

In the *American Journal of the Medical Sciences* for October, 1867, will be found an extremely interesting article by Dr. John H. Packard, of Philadelphia—On Some Points relating to Fractures of the Neck of the Femur—in which are adduced many considerations that bear forcibly on any conclusions that may be drawn from the clinical and pathological facts above set forth. But my object at present is not so much to dwell upon those aspects of the case as to emphasize certain medico-legal features that are liable at any moment to assume prominence. These are of especial interest to the medical profession. Some years since a prominent surgeon in Cincinnati was hailed while driving along the street by a young physician, who requested him to stop and glance at a painter, who, in falling from a ladder, had dislocated his thigh, which dislocation the young man assured him he had reduced. The surgeon complied, saw the patient, examined the limb, and assured the injured man that the thigh bone was back in its proper position. This was all the professional connection the surgeon had with the case. It seems that in a couple of months the painter was back at his business apparently all right, but in a few weeks he began to walk lame, and at the expiration of another month or so his legal representative called on the surgeon with a demand for compensation, alleging that, through want of skill on his part, a fracture of the neck of the thigh bone had been overlooked, and that his client was lame as a result of such malpractice. In this position, the lawyer went on to say, he was sustained by the opinion of a local professor of surgery and practitioner of high repute, who had assured him that the lameness of his client was wholly due to failure on the part of his surgical advisers to resort to measures calculated to keep the parts at rest until the fracture of the neck of the femur had united; that, by permitting him to get up too soon, either the callus had yielded or the hitherto untorn portion of the cervical ligament had ruptured; and that the shortening of the limb of late development was due to one or other of these causes, and could be due to nothing else. This case, vexatious and expensive as all such cases are, finally came to naught from inability on the part of the painter to stand the expense of litigation, and not because of the injustice of his claim or the bad character of the surgical advice on which it was based.

In the interpretation of these cases during life a history of the patient is of the utmost importance. Absorption of the neck of the femur may follow the most diverse injuries. If there has been fracture or dislocation, the surgeon will always guard his prognosis; it is in the slighter cases, and those where a simple contusion alone is apparent, that trouble is apt to arise; conversely, in patients where an injury of the hip is not attended by inability to walk that lasts for weeks; where no shortening occurs at first, but is of late development and gradual onset; where the defect in length is shown not to be located in any other part of the limb than the region around the joint, and where other parts of the body are free from evidences of chronic rheumatic arthritis, the morbid anatomical condition is absorption of the neck of the femur.

The late Dr. W. T. O'Donnell.—Dr. O'Donnell, of Devil's Lake, North Dakota, died on the 2d of May, at the age of forty-seven. He was a native of New Hampshire and a graduate of Dartmouth College. Dr. O'Donnell was an excellent classical scholar and a devoted student of Hippocrates and other ancient medical writers, and several communications of his relating to their writings have appeared in this Journal.

ACUTE PRIMARY BRONCHO-PNEUMONIA,

WITH LOW TEMPERATURE AND OTHER OBSCURE SYMPTOMS.*

By L. EMMETT HOLT, M. D.,

PROFESSOR OF DISEASES OF CHILDREN IN THE NEW YORK POLYCLINIC.

The diagnosis of acute disease among infants of the first few months of life is attended by peculiar difficulties. This difficulty depends not so much upon the fact that a wide range of diseases is likely to be met with as it does upon the masking of the ordinary diseases by very unusual symptoms. If one has the opportunity to see the autopsies in his cases, he is continually surprised at the want of correspondence existing between the symptoms and the lesions.

The following two cases of broncho-pneumonia illustrate this point; in both cases almost all the usual symptoms of pneumonia were wanting, and yet the lesions were typical.

Case I. *Extensive Broncho-pneumonia in the Upper and Lower Lobes of the Right Lung; Mild Gastro-enteric Symptoms for Four or Five Days; Pulmonary Symptoms only Twenty-four hours, and these Obscure Ones.*—A fairly nourished female infant, five weeks old, was admitted to the Babies' Hospital, February 11, 1890. It was sent from one of the day nurseries, where the child had been under the daily observation of a physician. For four or five days the movements from the bowels had been green but not very frequent, and there had been occasional vomiting. The symptoms were attributed to improper feeding.

When admitted, the child seemed bright; cough was not noticeable; there was no vomiting; the passages were very green and contained undigested food, but were not frequent or offensive. The evening temperature was 101° F. A teaspoonful of castor-oil was given and a comfortable night passed. Four green movements in the first twenty-four hours. On the following morning three drops of paregoric were given. Within a few hours after this dose the appearance of the child changed completely. The pulse became weak and thready; there was considerable dyspnœa, the respirations being rapid and superficial, with a peculiar catch in the middle of each inspiration, so that this appeared double, while expiration was natural. There was slight general cyanosis; the pupils were tightly contracted, the eyes a little sunken, the fontanel depressed, the face drawn and anxious; there was general relaxation, and the whole aspect of the case was alarming in the extreme. A careful examination of the chest was made, but only rude breathing sounds could be heard anywhere, of about equal intensity upon the two sides. The rectal temperature was 99° F. throughout the entire day.

Mustard packs and hot baths were used at short intervals and stimulants by the mouth freely given, and, though at first some reaction was produced, the child lost ground steadily during the day. By evening there was marked cyanosis, cold extremities, pulse too rapid to be counted. Death occurred during the night in a condition of collapse, the infant having had severe symptoms less than twenty-four hours.

Autopsy.—Thirty hours after death. Brain not examined. Lungs show no fluid in either pleural cavity. The left lung normal, slightly congested behind. One third of the right upper lobe and about three quarters of the lower lobe behind were consolidated, dark-colored, slightly mottled with gray; no crepitation, the condition shading over gradually into the healthy lung. On section, fairly typical broncho-pneumonia. Slight swelling of the bronchial glands. Right auricle and ventricle contained dark fluid; a small, partly decolorized thrombus in the right ventricle extending into the pulmonary artery. Foramen ovale closed excepting a pin-hole opening; the kidneys were pale, but the organs essentially normal, including the intestines.

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, April 10, 1890.

I made a microscopical examination of the lungs in this case to clear up any lurking suspicion in the mind of any one that this was not a case of pneumonia at all, but only collapse.

There was, as in the next case, in all the consolidated areas, a very extensive exudation of round cells filling the alveoli, especially about the larger blood-vessels and the bronchi, and, in addition, in many places quite large capillary hæmorrhages.

Case II. *Acute Broncho-pneumonia, Cardiac and Pulmonary Thrombi, and Areas of Pulmonary Gangrene; Severe Symptoms only Two Days; Low Temperature.*—A well-nourished male infant, six months old, was admitted to the Babies' Hospital on the evening of Monday, February 17th, with general symptoms of great prostration. The pulse was 120, but weak and intermittent; respirations, 32 and quite labored; temperature, 101·4°. The child was drowsy and swallowed with difficulty; slight cervical opisthotonus; pupils normal; no bulging of fontanel.

This child was also sent from a day nursery, and the following history was obtained: Well till one week ago; since then a slight cough; two days ago bowels loose, but no passage for past twenty-four hours; right ear discharging for two days. The infant had been at the day nursery on the Saturday previous; was seen at that time by the physician in attendance, and did not seem at all sick. On Monday for the first time did the child appear ill, and when it was brought back to the nursery the mother was directed to the hospital. A hot mustard bath and free stimulation ordered.

On the following morning the temperature was 99°; pulse, 132; respirations, 44. The prostration had increased, there was no stupor, but the infant was very drowsy and quite relaxed; there was pallor, but no cyanosis; fontanel depressed; marked recession of epigastrium and suprasternal and supraclavicular spaces on inspiration; no dullness; very rude respiratory murmur over the whole chest, with only a few coarse râles at the bases of the lungs. The respirations were so shallow and superficial that the examination was not very satisfactory. Throat negative; opisthotonus still present. As there seemed no evident cause for the prostration and drowsiness, the intestines were irrigated and the stomach washed out without any apparent improvement in the condition. No urine was passed during the day. By evening there was a very decided increase in all the severe symptoms, the prostration extreme, bordering on collapse in spite of stimulants both to the skin and internally.

At 7 P. M. the temperature was 96°; pulse, 140 and very weak; respirations, 48, with great dyspnœa; slight cyanosis.

He now passed into collapse and died at 3 A. M. the following morning, thirty hours after admission and forty-eight after the onset of severe symptoms.

Autopsy.—Eleven hours after death. Slight congestion of the brain; otherwise normal.

Lungs.—No fluid in the pleural cavity. Slight fibrinous exudation of recent origin upon the posterior surface of both lower lobes. The right lung showed partial consolidation of the posterior and upper portion of the upper lobe, very extensive consolidation of the lower lobe, the anterior portions of both being congested and œdematous. On section, these portions gave the typical appearances of broncho-pneumonia. Near the center of the lower lobe was a grayish area, in which the lung tissue was almost completely disintegrated. It was gangrenous, but without any odor. The gangrenous area was about the size of a walnut; in the artery leading to this area a firm thrombus, completely filling it, was found. In the central part of the right middle lobe there was a similar gangrenous area and a similar thrombus. These thrombi extended to the large branches of the pulmonary artery at the root of the lung. The left lung showed typical broncho-pneumonia in the posterior portion of both lobes, the lesion not quite so far advanced as upon the right side. At the root of the left lung a cheesy bronchial gland was discovered, and quite near it a very small area, in which were scattered recent miliary tubercles. On section of this, a small, cheesy nodule the size of a pea was found. The bronchial glands at the root of the right lung were swollen but not cheesy. No tubercles were found in any other part of the body.

The heart contained a small thrombus in the left ventricle, which extended slightly into the aorta and also into the left auricle, being closely adherent to the mitral valve. In the right ventricle there was a much larger thrombus, extending some distance in the pulmonary artery. This also extended into the right auricle, to the walls in which it was very closely adherent. There was quite marked cloudy swelling of the kidney, but the other organs were essentially normal. The appearance of the tubercles in the lung is evidently only an incident in the case, as this certainly had nothing to do with the symptoms and was entirely distinct from the pathological process in the lungs elsewhere. It is, however, of interest as showing a tubercular affection of the lung from a bronchial gland pretty clearly occurring in the child under circumstances when it would be scarcely expected and evidently having caused no symptoms, although the process must have existed for some time.

Microscopical examinations were made of several parts of the lungs and of the kidney by Dr. R. G. Freeman. Ordinary typical broncho-pneumonia was found with very abundant exudation of cells into the alveoli, but little fibrin. The epithelium of the convoluted tubes was quite granular, and in a few places cast matter was found in the tubes.

Remarks.—In both these cases the lesions were very ordinary ones, with the exception of the thrombi and gangrenous areas in the second child, and yet the history, the symptoms, and the course are as far as possible from those seen in typical cases of pneumonia.

In both cases the lesion was evidently very recent, but certainly in the second child considerably longer than the two days of acute symptoms. There was then in both cases acute pneumonia with early latent symptoms.

The low range of temperature is a point of especial interest. While it is very common for secondary pneumonia to develop with little or no elevation of temperature, it is very exceptional to see so little fever in cases of acute primary pneumonia. On the contrary, high temperature in a case of acute illness is generally the thing which makes us scrutinize the lungs for evidence of disease.

In Case I a singular feature is the fact that severe symptoms first developed shortly after a dose of opium, although this was a small one—only three drops of paregoric. The embarrassed respiration, slight cyanosis, and contracted pupils suggested strongly opium poisoning. Without the autopsy there would have been certainly some good reasons for believing that the opium had had something to do with the infant's death. In the light of the lesions found, the connection can not be regarded as anything more than a coincidence.

In Case II the pathological conditions considered in relation to the symptoms were: (1) Cerebral congestion or possibly meningitis associated with the otitis; (2) toxic symptoms from gastro-enteric catarrh; (3) acute nephritis and uræmia; (4) acute pulmonary congestion with areas of collapse; (5) pneumonia.

Pneumonia was strongly suspected in this case from its resemblance to Case I, the autopsy upon which had been but a few days before.

We are, then, to suspect pneumonia in infancy if dyspnœa, rapid breathing, great prostration, and slight cyanosis exist, even though the temperature be scarcely above the normal and though the examination of the chest may give no positive evidence that the lungs are diseased.

The great frequency of pneumonia in young children should put us always on our guard to watch for its many masked forms.

15 East Fifty-fourth Street.

AN INTRALIGAMENTARY OVARIAN CYST
SUCCESSFULLY TREATED WITH IODINE INJECTIONS.*

By R. B. RHETT, Jr., M. D.,
CHARLESTON, S. C.

On April 7, 1889, I was called to Mrs. H., white, aged twenty-eight, who gave the following history: She had always suffered some dysmenorrhœa, except from August, 1886, when she had an attack of typhoid fever, to October 10, 1887, when she married. During that interval there was no pain or difficulty. For years she has suffered slightly from incontinence of urine. Immediately subsequent to marriage the dysmenorrhœa returned and increased in severity; the pains, dragging weights, etc., continued also between the periods. She felt sick and badly all the time, but believed this to be the normal condition of women during early married life. In January, 1889, she missed her periods. In February for the first time she noticed in dressing that her abdomen had become enlarged, as her clothes were too tight, and thought she had conceived. On February 20th her menses returned and continued almost constantly until April 1st, when her physician prescribed medicine which stopped them. On March 8th she was seized suddenly with most violent cramps and retching. The agony was so intense that she fainted four or five times. She was also unable to void her urine, though constantly attempting to. Her family physician drew off her urine repeatedly and administered anodynes. On the 18th, while she was still confined to her chamber, another attack occurred similar in every particular, though slightly less in intensity. For some months she had suffered from constipation and there seemed to be some obstruction in the passage.

In 1886 she fell down a flight of stairs. For some time previous to March 8th she was in the daily habit of lifting buckets of water through a window. In raising the buckets from the outside piazza floor the abdomen was strained against the window-sill and often caused sharp pains. This fall or the forcible compression of the abdomen against the sharp edge of the sill may account, by having caused hæmorrhage, for the color of the fluid in the tumor, which at the operation was found to be brown.

Physical examination revealed the presence of a tumor extending across and occupying the lower part of the abdomen from the right inguinal region just below the anterior superior spine of the ilium to just under the left twelfth rib. The tumor was hard and tense and felt like a fibro-cyst. It could be felt plainly pressing down on the anterior wall of the vagina, and there gave the sensation of a solid growth.

The womb was fixed and deflected to the right, and measured four inches and a half in diameter. The bladder was elongated.

An effort, with partial success, was made to improve the patient's general condition before operating, by means of baths, tonics, etc.

About the middle of April Dr. J. J. Edwards was called into consultation and agreed with me as to the propriety of operating for the removal of the growth.

The diagnosis of an intraligamentary ovarian cyst was made, and measures for operating were taken accordingly.

On May 1, 1889, the operation was performed. An incision about four inches in length was made in the median line, reaching to about two inches below the umbilicus and just below the upper margin of the tumor. The incision was very cautiously deepened until the cyst-wall was reached and recognized. A trocar resembling Dunster's was thrust in near the upper extremity of the incision and the sac partly evacuated of a brown fluid. The opening was then carefully prolonged through the cyst-wall downward. The patient was then turned on her side and the fluid and solid contents of the sac were scooped out with the hand and the cavity was thoroughly washed. She was then turned back and the incision carried up into the peritoneal cavity. A short coil of intestines was found adherent to the peritoneal surface of the tumor and was released. Later during the operation this raw oozing surface of the coil bulged up into the opening and, in checking hæmorrhage, was grasped with pressure-forceps by an assistant and so bruised by the forceps as to necessitate the sewing up of about an inch of its surface.

An attempt was made to peel out the tumor; but the hæmorrhage was so terribly profuse and the constant necessity of stopping to control it so great, that very little progress was made. The patient was several times during the operation injected hypodermically with ammonia and hot bottles were kept in constant contact with her person. She became so weak that death on the table was imminent, and I decided to abandon further efforts to enucleate. The abdominal and tumor cavities were thoroughly cleansed with hot water. The edges of the incised peritonæum were sewed together, closing off the peritoneal cavity completely from that of the tumor. The freed portion of the sac, which in proportion to what remained was very little indeed, was cut off and the edges were drawn in apposition with sutures. The wound of the abdominal walls was closed by deep stitches with two drainage-tubes in the lower angle—one glass, bent at an angle, passing into the pelvic cavity and the other, of rubber, seven inches long, pushed into the upper portion of the sac.

The cavity after the first twenty-four hours, for two weeks, was injected every four hours with bichloride-of-mercury solution, 1 to 10,000 of boiled water, and once daily with about half an ounce of tincture of iodine, containing a small quantity of saturated solution of iodide of potassium to prevent the iodine from being precipitated when coming in contact with any water remaining in the cavity that had just previously been washed out. The iodine was thrown through a long-nozzled syringe against the upper surfaces and into the two sulci—one of which was under the left twelfth rib and the other in the right inguinal region. Three hours after each of these injections the sac was washed out. The syringe used while the tracts were large enough was one with a bent nozzle, which Emmet recommends for withdrawing mucous discharges from the uterine canal.

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* Read before the Medical Society of South Carolina, April 23, 1890.

When the tracts became too small a malleable silver cannula attached to a small aspirating syringe was used. For the first two days a few drops of carbolic acid were added to the tincture of iodine, with the idea of producing a slight caustic action. I now, however, believe that the quantity was so small that it had no effect. At no time did the patient complain of much pain deep in the abdomen. The opening and the surface around it were greased with vaseline. As the cavities contracted the tubes were removed, one at the end of three weeks and the other at the end of five. The injections of iodine after the second week were for a short time given every second day, and then every third until the tenth week, when the cavities had entirely closed. After the third week the iodine was immediately withdrawn with the injecting syringe, as it was believed that the surfaces were all thoroughly reached, and the tracts were not washed out in three hours. After the eighteenth day the discharge changed and became a transparent amber-colored fluid. At the end of six weeks the patient was up, and has since enjoyed excellent health, and there is at present no evidence whatsoever of any return of the growth.

I have searched the limited literature within my reach and find no reference to a similar line of treatment. The old treatment of injecting any ovarian cyst cavity after tapping, where the products of inflammation were locked up in the cavity, I regard as different in material points. The theory upon which this treatment was based was, that, because of the low vitality and non-malignancy of the structures, besides its antiseptic and hæmostatic effects, the pure tincture of iodine might, as it does in some pathological conditions of the endometrium, produce disintegration, resolution, and complete absorption of the growth. This effect followed in this instance, but there may have been other factors which accomplished the result. The test of experience alone can prove it. But if time should establish it to be the best and safest treatment, then should we have a simple and easy process substituted for one from which even the boldest and most skillful gynæcologists shrink.

The appalling hæmorrhage, the dangers of tearing the ureters, the rectum, the bladder, etc., would be entirely removed, and in many cases it would be unnecessary to even open the peritoneal cavity.

A CASE OF PERSISTENT VOMITING, WITH A HISTORY OF CHYLOUS (?) VOMITING, RELIEVED BY LAPAROTOMY.*

By A. H. BUCKMASTER, M. D.

Mrs. C., aged thirty-five, married fourteen years, and the mother of one child, sought my aid for the relief of persistent vomiting. She had had no miscarriages, and her only labor was a severe one. The membranes ruptured at 2 o'clock A. M., and the child's head appeared at the vulval cleft at 2 o'clock P. M., where it remained until 6 o'clock, when delivery took place spontaneously. There was a complete rupture through the recto-vaginal septum. Seven days after labor, while nursing the child, as the patient felt the distention in the breasts, she regurgitated a milky-white fluid through the mouth. This happened every time she nursed the child, and finally led the medical attendant to advise the weaning of the infant, which was done. She drank no milk after the birth of the child, taking cocoa, gruel, etc. As the milk decreased, *pari passu* the amount of regurgitation of milky fluid also diminished.

Seven months later Dr. W. G. Hoyt, of this city, restored the recto-vaginal septum.

A year and a half after the labor the patient began to vomit daily. She consulted Dr. Stern, of Leicester, Mass., who treated her during the summer, with slight improvement of the symptom. The vomiting occurred immediately after eating, and at other times irrespective of the taking of food.

The patient then came to New York and saw Dr. Weinberg, and was by him referred to the late Dr. James B. Hunter. Dr. Hunter placed her in the Woman's Hospital, and thought the trouble was due to enlarged and cystic ovaries, and recommended oophorectomy. The patient was so weak at the time that her friends decided not to have her undergo the operation. She went to Brooklyn and entered the Long Island College Hospital. She remained a short time, and finally consulted me, by the advice of Dr. Thomas B. Watkins, now of Chicago. I found her much emaciated and so weak that she could scarcely walk. On either side of the uterus were two large, movable masses, of about the size of small lemons. She complained that she could not drink part of a glass of water without vomiting. Examination of the urine revealed nothing, and I sent the patient to Dr. B. F. Westbrook, of Brooklyn, asking him to go over the case carefully for any organic disease that might account for the vomiting, and to state whether he considered the vomiting of a reflex character, and if the patient could stand the etherization. Dr. Westbrook returned a written report, advising the removal of the masses in the pelvis, as he could find no other cause for the vomiting, and stating that he considered the patient's condition critical. In January, 1889, I removed the masses spoken of, which were very much enlarged ovaries. There were no adhesions, and the patient made an uninterrupted recovery. She did not vomit after the operation, except when coming out of the anæsthesia, for four months, and gained in flesh during this time thirty-six pounds. At the end of this period vomiting began again and soon was as bad as ever. After drifting from physician to physician, she sought my care in the following September. I again used all the means I could think of to help the trouble, but without avail. Lavage and strict diet of various kinds proved futile. The cervix contained a slight amount of hard tissue. This was removed with no favorable result.

On December 7th I made an explorative incision, thinking perhaps that Loreta's operation might be indicated. I removed the small intestines from the abdominal cavity and carefully examined them coil by coil for adhesions or other abnormities. The pyloric orifice was palpated, as were the kidneys. The only thing noticed was that the right kidney appeared somewhat enlarged, and just above it was what I took to be an enlarged suprarenal capsule. The abdomen was closed, and the patient did not vomit for several months. It is now five months since the last operation, and the patient states that vomiting has begun again, and she fears that she will be as bad as ever.

The two interesting points in the above-given history are the temporary cessation of the vomiting after laparotomy and the milk-like vomiting after the birth of the child. The latter symptom, which I had on the statement of the patient, I treated as an idle story until by repeated cross-examination of the patient's mother and husband I was unable to make them contradict the assertion. Dr. Busey's interesting article on The Effusion of Chyle and Chyle-like, Milky, Fatty, and Oily Fluids into the Serous Cavities* has induced me to present this case for your attention, and in closing I will take the liberty of quoting two of his footnotes:

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* Read before the Alumni Association of the Woman's Hospital, January 16, 1890.

> "Practicus observed saliva evidently milky. For a woman, he says, nursing a child, again became pregnant, and therefore weaned the child. The right breast, from neglect, became like a large tumor, and on a certain night subsequently, while suffering much pain, she had an abundant discharge of milk from the mouth, with a corresponding decrease of the swelling in her breast. She swallowed the milk as it came into her mouth (without any inconvenience), which continued for four months.
>
> "But it may be asked, How came the decrease in the breast? In my judgment, in no other way than this: that the masses of the blood were laden with chyle, the particles of which could not permeate the lactiferous tubules of the mammæ on account of their collapsed condition, but formed a tumor in those nearest the mammary gland, especially since their arteries were filled and were not capable of removing any more. Indeed, the chylous and milky particles were abundantly distributed through the blood mass, and permeated the glandular structures, especially the salivary, which offered the least resistance. In the mean time the blood, on account of its freer and quieter motion, propelled the chylous particles remaining in the breast toward the veins, and thus to the heart; hence it followed the breast was emptied." *Sialographia, etc., Ductuum Aquosorum Anat. Nova.* Lugduni Batavorum, 1695, p. 49.
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> "A woman who was nursing twins began to complain, a few days after the death of one of them, of a sense of dull pain and tension beneath the ribs of the right side of the abdomen and over the umbilicus. This feeling was succeeded by stretching, the stretching by itching, and the itching by an exudation of fluid from the skin, the color, taste, and consistence of which were identical with milk, and which yielded a true butter on agitation." *Ephemerides Germaniæ*, decur. ii, ann. viii.

HYSTERECTOMY FOR ŒDEMATOUS FIBROID.

RECOVERY.

By RICHARD DOUGLAS, M. D.,

PROFESSOR OF GYNÆCOLOGY, MEDICAL DEPARTMENT, VANDERBILT UNIVERSITY, NASHVILLE, TENN.

Jane V., colored, aged forty, widow, of short and thick stature, the mother of three children, youngest eighteen years old. Five years ago she discovered a hard, round, painless tumor, about the size of a small orange, in the left inguinal region. There was but little change in the growth during the first two years of its recognized existence; during the last three, however, its growth has been quite active. Her menstrual history normal; slight vesical and rectal irritation, with a sense of weight and heaviness in pelvis, were the only symptoms indicating its presence, she being able to discharge her duties as cook in a private family up to January 1, 1889, since which time the growth has been rapid, the tumor attaining such dimensions as to give rise to serious symptoms, attributable to size and weight. When first seen by me in July last she was confined to her bed; the abdomen was greatly distended by a large, smooth, symmetrical, and decidedly elastic tumor. The poor woman was in great distress, unable to walk or stand with comfort; confined to her bed, finding rest only upon her side; in changing her position it was necessary for some one to assist in lifting the tumor over; at times there was alarming dyspnœa, obstinate constipation, and decided tenderness all over the tumor. Vaginal examination was negative, the uterus being almost out of reach high up in the pelvis. Operation was advised but refused.

On September 20th was recalled, and found her general condition much worse. The tumor was now hard, yet in parts there was a deceptive wave appreciable. The diagnosis was extremely difficult, but, from race, clinical history, and physical signs, it pointed to œdematous fibroid.

After due preparation she was submitted to operation on September 28th. The usual short incision was made, the character of the growth found to be soft fibroid, and its removal determined upon. The incision was extended as necessary to a point one inch below the ensiform cartilage; the growth almost filled the abdominal cavity; the greater omentum was spread out and attached over its entire anterior portion, and immense veins larger than a lead-pencil, a dozen or more in number, coursed over its surface; strong and vascular adhesions attached the tumor to the ascending and transverse colon, and a coil of small intestine was adherent to the left side. The adhesions were grasped with forceps and ligatured on the proximal side with No. 4 carbolized silk, and divided between forceps and ligature, the forceps being left *in situ* on the tumor side in preference to double ligature, simply as a matter of expediency. All the adhesions were carefully treated in this manner, and the tumor, freed of all save its deep pelvic attachments, was delivered from the cavity and held well up by the assistants. The appendages were so much elongated by the growth that they were with ease brought up alongside of the body of the uterus, and the wire, of Bantock's modification of Kœberlé's serre-nœud, was made to embrace the uterus and appendages just above the vaginal attachment. The clamp was now tightened by several turns of the screw, and, when deemed sufficiently constricted, the pedicle-pins were introduced just above the wire, and the uterus with its growth cut away half an inch above the pins, the stump appearing perfectly white and bloodless. Immediately after the amputation the wire was tightened by two turns of the screw, a point to which Bantock attaches much importance. The little blood that had escaped into the cavity was sponged out, and the abdominal incision closed down to the stump, some care being taken to stitch the parietal peritonæum to the stump immediately below the grasp of the wire, thus completely closing and protecting the cavity from such discharge as might take place from the pedicle. The excess of tissue was then trimmed off of the stump and its peritoneal covering drawn over its surface by stitches, the object being not only to limit the exposed portion, but also to compress it by the tightly drawn silk sutures. A few superficial stitches were now introduced to draw the skin more closely about the pedicle, and gauze carefully packed under the pins and about the stump. Iodoform was dusted over the wound and the usual dressings were applied. The operation was completed in about two hours and twenty minutes. The tumor weighed twenty-three pounds and a half. Patient showed but little shock, reacting promptly.

There is nothing in the progress of the case worthy of note except that the temperature remained under 100° F. The bowels moved on the fourth day without a laxative; the wound healed primarily throughout; the clamp was tightened from day to day by a few turns of the screw; there was never any suppuration at the pedicle. The stump mummified and dropped off on the twenty-second day, leaving a small cupped granulating depression, this healing in a short time. It is now seven months since the operation, and my patient has regained her former health and vigor. This case may be reported not only as one of recovery from operation, but as one of absolute restoration to health.

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* *Amer. Jour. of the Med. Sciences*, 1889.

CASE OF EMPYEMA COMPLICATED WITH PULMONARY ŒDEMA.

REMARKS.[*]

By F. HUBER, M. D.

Though the subject of empyema has but recently been discussed before this Section, I have taken the liberty to present the following case, in order to direct attention to a not infrequent complication and to lay stress upon a practical point in the management of cases complicated with pulmonary œdema of the other side.

The little patient, Jessie W., aged twenty months, was referred to me through the courtesy of Dr. D. Cook, December 5, 1889. Unfortunately, I was not able to see the child until midnight, though notified earlier in the evening that effusion was present, with œdema of the other lung. I found the patient, who had been ill sixteen days, in a very precarious condition, extremely restless, tossing about wildly, and crying incessantly. Marked orthopnœa present for several hours. Face and extremities cyanosed, pulse feeble, limbs cold, eyes sunken and heavy. Several drachms of brandy were given, and the child, seated in the mother's lap, was aspirated and about six ounces of purulent fluid were drawn off very slowly. Though the breathing became easier, the general condition was bad and the child was at once placed in bed with the head low, hot bottles being applied to the extremities and warm applications over the præcordial region. Very soon the little patient rallied and grew quiet, soon after fell asleep, and passed a fairly comfortable night. The next day, as the child had gained ground and looked considerably better, it was determined to operate, the œdema of the other lung having subsided. Accordingly, assisted by Dr. Cook, the child was placed on the healthy side and, without an anæsthetic, the chest was incised posteriorly below the angle of the scapula and a drainage-tube inserted. The cavity was now irrigated with hot water and an antiseptic dressing applied. Irrigation was only resorted to once or twice subsequently, to wash out the fibrinous masses. A sheet of rubber several inches square was placed over the opening to act as a valve. This innovation, however, did not impress Dr. Cook or myself very favorably, and was discarded after a few days. The subsequent course was favorable, and in less than four weeks not only had the lung expanded fully, but even the integumental wound had healed.

Hyperæmia or congestion of the lungs is a very grave complication, which may result in œdema and even cause free albuminoid and frothy expectoration, often terminating in asphyxia and death by suffocation—œdema, pneumonia serosa of Traube, acute albuminoid expectoration of the French authors.

When pulmonary œdema occurs as a complication of purulent pleurisy it always adds to the gravity of the case, and may be the immediate cause of death. The treatment should be prompt and bold. Stimulants of various kinds must be given and the chest aspirated without delay. The quantity to be drawn off must necessarily vary with the circumstances of the individual case. Even in a simple case of effusion there is ordinarily greater or less danger of producing fresh congestion and hyperæmia of the lungs in removing a large quantity. It must not be lost sight of that our purpose is to relieve the intrathoracic pressure, to free the overburdened heart, and to remove the symptoms of oppression. As has been well said, "slowness in the withdrawal of the fluid, as well as the small quantity drawn, lessens the probability of any unpleasant effect." Bowditch says: "I always draw with great deliberation; I pull so lightly upon the handle of the piston that it seems as if the fluid itself were pressing out from the chest and pushed the piston upward, my hand simply following the impulse."

If this be true of an uncomplicated case, the lesson applies with far greater force to a case in which the danger to be avoided already exists and presents itself to us face to face. Some years ago, after reading of a number of cases of empyema cured by aspiration, I was in the habit of withdrawing large quantities, and did not meet with any bad effects in simple cases of purulent effusion. In several instances in which œdema was present upon the other side, though the aspiration was slowly performed with a Dieulafoy instrument and the patient stimulated, the œdema progressed, and the cases resulted fatally within thirty-six hours. It is true the cases were unfavorable, the œdema of the lung being well marked; but, in the light of subsequent experience, I am forced to concede that, had the quantity drawn off been less, the circulatory changes would not have been so extreme within a comparatively short time and the failing heart might have regained its tone and the termination been more favorable. Since then three additional cases of empyema with pulmonary œdema have come under my observation. From four to six ounces only were drawn off, the patients stimulated, and the heart allowed to regain its force; the pulmonary œdema gradually subsided within six hours, and, as in the case reported above, subsequent incision with drainage was practiced, followed by recovery.

The complication, in my experience, occurs rather in the acute suppurative pleurisies, in which class, as a rule, the constitutional symptoms are severe, the effusion of fluid rapid, and the heart's action greatly enfeebled. It occurs early, too, in the history of the case—about the end of the first or second week. I have not met with it in the subacute or chronic variety, where the heart has a chance to accustom itself gradually to the extra work demanded. Its mode of onset, too, may be rather sudden. A child aged three years was left fairly comfortable on the morning of the seventh day of her illness; unforeseen circumstances prevented the evening visit. During the night I was called out and found the patient suffering from orthopnœa, cyanosed, with the usual symptoms of extreme air-hunger, and with a marked pulmonary œdema of the other lung. I was compelled to aspirate at 3 A. M., and drew off about four ounces, sufficient to relieve the urgent symptoms. The same afternoon, when Professor Jacobi saw the case, the danger was over. A few days later the child was operated on and recovered.

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[*] Read before the Section in Pædiatrics of the New York Academy of Medicine, April 10, 1890.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JULY 19, 1890.

NEW YORK'S NEW WATER SUPPLY.

At the time of writing, the Croton water is flowing for the first time through the new aqueduct. It is given out that for the present the flow is to be allowed to continue only long enough to fill the Central Park reservoir, which is said not to have been full at any time during the last fifteen years; and that then the new aqueduct is to be emptied for a period of about six weeks to give an opportunity for finishing certain work on it considered essential to its enduring efficiency.

When the old aqueduct was built, in the first half of the century, it was commonly thought to be quite sufficient for a town of any size that the imagination of the wildest optimist could picture New York as likely to attain, but within forty years it showed its incapacity, and it may take its place by the side of the brownstone rear wall of the City Hall as a monument to the defective foresight of the citizens of New York, and by the side of the old lady's declaration, in colonial times, that she could foresee the time when New York would contain "fifty thousand inhabitants," wherein the old lady was a trifle behind her predecessor who had foretold the stretching of London to Greenwich. Water has been going to waste over the Croton dam for years; there has been "water all around, but none to drink." If it is beyond all practicable expedients to bring the whole of this water to town—and we do not understand that even the two aqueducts will do it—it seems to us, as we have stated before, that other sources of supply should be drawn upon, especially the one involved in Mr. Bartlett's scheme. It will not do to put off further undertakings of the kind until another water famine is upon us.

The temporary relief alluded to will come none too soon. The supply of water available in most New York houses has dwindled year by year until it reached its minimum this summer, when it would not run in the second stories of most houses during the greater part of the day, Sundays and holidays excepted, and often failed on the first floor, or came only in a fitful dribble; so that the illustration employed by one of the comic newspapers, in which it puts into the mouth of a matron the query, addressed to her husband, whether it would be better to wash the child's face or have boiled potatoes for dinner, is hardly strained. A water supply of good quality and adequate quantity is a sanitary necessity of the first magnitude, to say nothing of its importance to comfort. When the quantity falls off seriously the quality is almost sure to deteriorate. Organic impurities necessarily find their way into open reservoirs. When they are copiously diluted they are relatively or altogether harmless; when they gain access to small bodies of water they may be potent for evil. Fortunately, during our water famine there has been no widespread prevalence of disease attributable to drinking contaminated water, but in hundreds of ways our restriction has doubtless contributed indirectly to grave attacks of sickness, and all the more this summer, seeing that the supply of ice in the market is reduced almost beyond precedent, and its quality correspondingly questionable. Our impression is that it would be wise to allow the preliminary flow through the new aqueduct to continue through the few remaining weeks of warm weather, provided the nature of the work of perfecting the conduit admits of such a course.

ACROMEGALY.

Within the last few years this disease has been brought before the notice of the profession, and now cases are being found in all the large centers of clinical research. The credit of first having described this very strange affection is undoubtedly due to Marie, who made a study of certain cases at Charcot's clinic in Paris. His records have been published in the numbers of the *Revue de médecine* for the current year, and have attracted a great deal of attention.

Quite recently the description of a case was given at the meeting of the Association of American Physicians at Washington. In addition to the work done by Marie, M. Suza-Leite, another of Charcot's pupils, has collected all that is known of this strange disease, and, having added some original observations made at Charcot's clinic, has published a comprehensive treatise which embodies all our present knowledge of the subject.

The disease begins by a gradual thickening of the hands, which become uniformly enlarged, the other members not altering their form. But after the hands become enlarged a change comes over the face in that it becomes longer by a well-marked prognathism. The lower lip grows thick and pendulous, the nose becomes hypertrophied, the orbital arches become prominent, the lids thicken, and the skin generally undergoes pigmentation. Deformity extends to the trunk, lateral curvature of the spine takes place in the cervico-dorsal region, the ends of the ribs become prominent, and the patient comes to present a humpbacked appearance. In addition to these changes, the patient complains of headache, of pains in various parts of the body, of increased thirst and hunger, and of disturbances of vision, and in women amenorrhœa is wont to occur. These are the principal characteristics of the disease. But there are other less striking ones which are important from a diagnostic point of view.

For the first two years of its course the progress of the disease may be rapid, but at the end of that time a stationary period is reached, with occasional exacerbations of the symptoms already present, the patients eventually dying either by the cachexy induced or by reason of some cerebral lesion. They are lesions which belong especially to acromegaly, and it is doubtless a distinct disease. The lesion most constantly present is a considerable enlargement of the pituitary body, which acts in all respects like a tumor at the base of the brain, and has all the accompaniments of such a structure—viz., compression of all cerebral structures, but especially those concerned with vision. The ganglia and the nervous cords of the sympathetic afford evidence of having undergone hypertrophy, the thymus is persistent, and lesions are found in the thyroid body, the heart, and the vessels. After the changes in the pituitary body have occurred similar processes begin to take place in the bony parts, the sella turcica becomes enlarged, and other bony changes have been found.

The cause of this strange malady is obscure. It begins in adolescence or in mature age, and some of the patients give histories of antecedent mental shock, exposure to cold, rheumatism, or syphilis, but nothing is really known of its ætiology.

MINOR PARAGRAPHS.

AN INJUSTICE TO AN HONORABLE HOUSE.

UNDER the heading "Messrs Hazard, Hazard, & Co. sail under False Colors," the *Virginia Medical Monthly* says: "We have had occasion for some time to doubt the honesty of this firm, but were hoping that before this they would have relieved themselves of occasion for our suspicion. We have afforded them abundant opportunities to straighten themselves out in our estimation, but, as they seem entirely lost to those principles which regulate dealings with honest houses, we are painfully forced to recall any commendation we may have given this house in the past." The *Monthly* then appends a letter from Mr. W. F. Ford, which appeared in our issue for June 21st, as confirmatory of its unfavorable inference. The statements embodied in Mr. Ford's letter are true, but they are not the whole truth, and they do not warrant our Virginia contemporary's deduction. Mr. Ford says that he has "been manufacturing for the surgical profession continuously for over forty years," but he omits to state that for about half that period he was manufacturing under the firm now styled Hazard, Hazard, & Co. and that his connection with that firm ceased only very recently—so recently, in fact, that the statement in their advertisement to which he objects was simply the result of their failure to remove a standing notice instantly. We happen to know that they ordered its removal as soon as their attention was called to it. We regret exceedingly that our contemporary should have drawn from anything published in this Journal an inference in any way unfavorable to a house which for more than a century has deserved and received—and, we believe, still deserves and receives—the confidence of the medical profession.

THE ADMINISTRATION OF CHLOROFORM BY GASLIGHT.

CONSIDERABLE attention has been given of late to the chemical composition of the compounds formed by chloroform vapor, air, and the products of the decomposition of coal gas. It appears from the investigations of several chemists (Stobwasser, von Iterson, Zweifel, and others) that chloroform vapor may be decomposed by gas flame and give rise to a compound of carbon and chlorine which is very irritating to the respiratory organs. This substance, along with others, forms a vapor in the neighborhood of the gas jet or of the petroleum flame. The operators sometimes experience pains in the head, nausea, and dizziness, while the subjects of operation suffer afterward from dyspnœa, cough, and lacrymation. Asphyxia in the course of the anæsthesia may develop at any moment and be followed by pulmonary complications. Kunckel's experiments (*Bulletin médical*) show that the chloroform is decomposed into hydrochloric acid, and he believes that it is that which does the mischief. He thinks that the effect might be counteracted by inhalation through linen soaked in an alkaline solution.

SUPPURATION AFTER CATARACT EXTRACTION.

IN the *Klinisches Monatsblatt für Augenheilkunde*, according to the *Deutsche Medizinal-Zeitung*, Professor Adamük has brought together a large amount of statistical material from which he deduces that suppuration following a cataract extraction does not depend upon the traumatism inflicted during the operation, but upon infection. To prove this he quotes cases in which the greatest possible amount of traumatism was inflicted without any resulting suppuration, and contends that a clumsily performed operation is no more likely to be followed by this complication than one very skillfully performed.

THE ANIMAL PARASITES OF SHEEP.

THE Bureau of Animal Industry of the Department of Agriculture has lately brought out a volume with this title, by Cooper Curtice, D. V. S., M. D., illustrated with thirty-six lithographs of the various parasites, mostly from original drawings. The diseases to which the parasites give rise are described, and their prevention and treatment are dealt with. The value of such a publication to those who are engaged in sheep-raising must prove very great.

THE MEDICAL REGISTER OF NEW YORK, NEW JERSEY, AND CONNECTICUT.

THE twenty-eighth volume of this annual has just been received, being overdue a fortnight or more. The editor, in his preface, adverts to the fact that, in regard to the physicians of the city, the changes and removals have been unprecedentedly numerous, a fact which, while it has occasioned delay, makes the volume all the more important for reference purposes. Over 7,600 physicians find registration from the three States intended to be covered by this publication for 1890–'91.

THE UNIVERSITY OF THE CITY OF NEW YORK.

THE fiftieth anniversary of the establishment of the Medical Department is close at hand, and that fact is made the occasion of a more than usually elaborate annual announcement, embellished with views of some of the lecture-rooms and students' laboratories. The announcement is made that during the half-century of its existence the institution has conferred the degree of M. D. on 5,832 matriculates.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 15, 1890:

DISEASES.	Week ending July 8.		Week ending July 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	8	0	26	6
Scarlet fever	43	2	44	5
Cerebro-spinal meningitis	2	2	1	1
Measles	271	23	240	19
Diphtheria	74	23	54	15
Varicella	4	0	3	0

The Astley Cooper Prize.—The *British Medical Journal* states that Mr. William Watson Cheyne, M. B., has received the award of the triennial prize of three hundred pounds for the best essay on The Origin, Anatomy, Results, and Treatment of Tubercular Diseases of the Bones and Joints.

The American Public Health Association will hold its eighteenth annual meeting in Charleston, S. C., on the 16th, 17th, 18th, and 19th of December, under the presidency of Dr. Henry B. Baker, of Lansing, Mich.

The Ontario Medical Association.—At the June meeting, we learn from the *Montreal Medical Journal*, Dr. T. Addis Emmet, of New York, and Dr. E. M. Moore, of Rochester, were elected honorary members.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, for the week ending July 12, 1890:*

Robinson, Samuel Q., Captain and Assistant Surgeon, is relieved from temporary duty at the U. S. Military Academy, West Point, N. Y., to take effect upon the arrival there of Carter, W. Fitzhugh, Captain and Assistant Surgeon, and will report in person to the commanding officer, Fort Du Chesne, Utah Territory, for duty, relieving Price, Curtis E., Captain and Assistant Surgeon. Captain Price, on being relieved by Captain Robinson, will proceed to Fort Wadsworth, New York Harbor, and report in person to the commanding officer of that post for duty, relieving Benham, Robert B., Captain and Assistant Surgeon. Captain Benham, on being thus relieved from temporary duty at Fort Wadsworth, will report in person without delay to the commanding officer, Fort Hamilton, New York Harbor, for duty. Par. 12, S. O. 153, A. G. O., July 2, 1890, Washington, D. C.

Gardiner, John de B. W., Captain and Assistant Surgeon, having been found incapacitated for active service by an army retiring board, and having complied with Par. 12, S. O. 135, June 10, 1890, from this office, is, by direction of the Acting Secretary of War, granted leave of absence until further orders on account of disability. Par. 3, S. O. 153, A. G. O., July 2, 1890, Washington, D. C.

Taylor, Marcus E., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence on surgeon's certificate granted in S. O. 45, June 13, 1890, Division of the Pacific, is extended five months on surgeon's certificate of disability, with permission to go beyond sea. Par. 6, S. O. 159, A. G. O., July 10, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending July 12, 1890:*

Rixey, P. H., Surgeon. Leave of absence granted for fifteen days.

Ogden, F. N., Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

White, S. Stuart, Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

Atlee, L. W., Assistant Surgeon. Granted three months' leave of absence.

Woolverton, T., Medical Inspector. To await orders to the U. S. Steamer Philadelphia.

Lovering, P. A., Passed Assistant Surgeon. To await orders to the U. S. Steamer Philadelphia.

McMurtrie, D., Medical Inspector. Granted leave of absence for — days.

Proceedings of Societies.

RICHMOND, VA., ACADEMY OF MEDICINE AND SURGERY.

Meeting of May 27, 1890.

The President, Dr. W. W. Parker, in the Chair.

A Nasal Concretion.—The President exhibited a specimen resembling wood coated with calcareous matter—the whole of about the size of a bicuspid tooth. A child of ten had expelled it from the nose in the act of sneezing; its presence there had been known for seven years.

Unusual Relation of Pulse and Temperature in Malarial Fever.—Dr. R. D. Garcin reported having observed in a case of malarial fever (in a girl of eighteen years), one evening, a temperature of 101° F., the pulse being normal. He had given no heart sedatives.

Salol in Dysentery.—Dr. Aaron Jeffery, having used salol in several cases of dysentery, reported very flattering results. Having failed with the ordinary treatment of the disease, he had ordered salol in powder, ten grains every three hours, with the result of disappearance of blood and mucus in about twenty-four hours.

Dr. Landon B. Edwards had been using salol in dysentery since attention had been called to its virtue by Dr. W. P. Nicolson, of Atlanta. He now preferred it to calomel and opium. He stated that the condition of pulse and temperature referred to by Dr. Garcin was common in malarial and typho-malarial fevers. He had observed in typho-malarial fever a pulse of 60 or 65 while the temperature ranged from 101° to 103°, probably being no higher from the effect of antifebriles. The condition of the pulse was so peculiar as to suggest idiosyncrasy, but an examination after recovery had discovered a normal rate.

Salines in Peritonitis and Typho-malarial Fever.—Dr. Edwards also called attention to the use of salines in peritonitis and typho-malarial fever. There had been hesitation and fear in regard to using the suggestion from lack of accuracy in differentiating typhoid and typho-malarial affections. He was confident that if this treatment was adopted a decided inroad would be made in the direction of shortening the duration of typho-malarial fever. This idea was sustained by eminent authorities. He had learned, since a correspondence with Dr. Joseph Price, that in peritonitis and typho-malarial fever the use of salines had become comparatively general in the North. He did not positively advocate this plan, but suggested it. Whereas a doctor would do well ordinarily to bring a case of typho-malarial fever to a close in fifteen or twenty days, he had completed two cases in about eight days with the use of salines and such antipyretics as acetanilide, antipyrine, and quinine. Fluid diet was as essential as medicines. In using the antipyretics he had guarded them with heart tonics, preferably strophanthus.

The President had observed, in reference to the abnormal relation of pulse and temperature, the pulse as low as 30 in some cases of typho-malarial fever.

Dr. O. A. Crenshaw stated, in reference to Dr. Edwards's remarks, that the treatment in 1845 had been with purgatives and venesection.

Dr. Edwards stated that salines were used not for their purgative but for their derivative effect.

Dr. Crenshaw believed that typho-malarial fever, so called, was nothing but typhoid fever modified by malarial poison as a result of the unfortunate hygienic conditions in our cities. In typhoid fever no purgatives should be used. In typho-malarial fever he followed the plan of purgatives in the beginning, and quinine.

Antipyrine in Malarial Fever.—Dr. Garcin asked the experience of any present in the use of antipyrine in malarial fever. He had found that it only controlled temperature while it was administered.

Antipyrine in Typhoid Fever.—Dr. Jeffery had found that in typhoid fever antipyrine reduced the temperature for the first few days, but afterward had no effect. He thought the drug too depressing to be safe, and that it did great harm in suddenly reducing high temperature, thus obscuring the true nature of the disease.

Dr. T. J. Moore, in reference to the saline treatment suggested by Dr. Edwards, asked if the natural history of these diseases had not been overlooked. The history of typhoid and typho-malarial fevers showed that they would run their course. He would therefore suggest palliative treatment. He did not like to tamper with new remedies until they had been proved of value. Where there was a tendency to ulceration of the bowel in typho-malarial fever the use of salines might set up a diarrhœa which it would be difficult to control. Quiet had been found very necessary in such conditions. In reference to peritonitis, salines might be resorted to where there was a pouring out of serum but not genuine pus. Wegner and one or two others had recommended, where there was an exudation of bloody serum but no true peritonitis, the use of salines to stimulate absorption.

Dr. Edwards feared that he might have been misunderstood. Where there was decided typhoid fever or ulceration present he would not advise salines nor had he ever seen them recommended. But in typho-malarial or bilious typhoid fever—the fever in which the leading element, bilious or malarial, as the case might be, was modified by a typhoid element (a furred tongue and constipated bowels distinguishing true typhoid)—salines might be used.

Sulphonal as a Hypnotic.—Dr. Jeffery reported the history of a case of a lady who, after taking thirty grains of sulphonal, slept from 6 p. m. on Saturday until 10 a. m. on Sunday; then, after an hour or two for breakfast, again slept until 4 p. m., and again from supper until the following morning. This was the only case in which he had observed such prolonged effect, although he had used the drug with success in various classes of wakefulness.

Dr. Crenshaw thought that sulphonal was an unreliable hypnotic.

The President had seen one case in which it seemed depressing.

Diabetes was the subject for the evening.

Dr. T. J. Moore opened the discussion. He said that there were two conditions under which sugar existed in the urine, known as diabetes mellitus and glycosuria. The first was characterized by the constant and persistent presence of sugar in greater or less quantity; the second was a transitory condition, where sugar made its appearance for the time being, but ultimately disappeared. In the former condition diet of a proper nature, and diet alone, would either greatly reduce the amount of sugar passed *per diem*, or would cause it to disappear during the time the diet was continued, to return, however, when it was left off. As to causes in diabetes mellitus, heredity played a conspicuous part, and it was liable to continue in the family for three or four generations. Mental emotions, nervous disturbances of all kinds—such as want, deprivation, exposure to cold, etc.—might give rise to it. Any irritation affecting the floor of the fourth ventricle—central lesions and pathological changes in the vicinity of this region frequently caused it—such as tumors, serous effusion, hæmorrhage, red and white softening, gummata, and interstitial changes of nervous matter. Gout, rheumatism, rheumatoid arthritis, pneumonia, typhoid and scarlet fevers, were all said to at times predispose to if not directly to induce it. Abstinence from animal and confinement to starchy foods was asserted by a certain class of authors to give genesis to it. The statistics would not sustain this declaration. Vegetarians and the residents of hot climates who subsisted chiefly upon vegetable diet were not specially prone to it. It was generally a disease of adult life, a limited percentage, however, occurring in children from five years upward. To enumerate the causes of glycosuria would necessitate repetition. Carbonic oxide, chloroform, ether, alcohol, strychnine, morphine, and the ingestion of large quantities of mineral acids, phosphoric especially, had been known to give rise to it. Uric acid in the gouty would likewise produce it. Anæmia following malarial poisoning, rheumatism, cholera, or prolonged lactation had been known to cause it. Abnormal conditions of the digestive tract and congestion of the pancreas sometimes caused glycosuria. Overwork, anxiety, and morbid mental disturbances occasionally produced it. Women undergoing the change of life, and broken-down aged people were liable to it. It was difficult to determine at first which of these conditions existed. In time the frequent examination of urine would alone solve the problem. Several of the conditions above enumerated as producing glycosuria would likewise produce diabetes mellitus. In the latter disease the range of the thermometer was peculiarly interesting. It was quite often as low as 93°, more often 97° and 97·5°. The specific gravity of the urine was high, frequently ranging from 1·028 to 1·045. The diurnal quantity of urine ranged from six to thirty pints, with a general average of six to twelve pints, and of sugar from three ounces to half a pound. Uric acid, hippuric and phosphoric, the lime and potash salts (oxalate of calcium in particular), and albumin—had all been found as accompaniments. The disease was an insidious one, often accidentally discovered in a general examination of urine.

The impression was prevalent that in true diabetes the career of one so affected was necessarily short. Severe cases, occurring in the weak, aged, or generally broken down, would average about two years. Under more favorable conditions patients would live from ten to twenty years. The appetite was voracious and difficult to satisfy. Thirst was continuous. As to morbid anatomy, the liver was most frequently congested without structural change; the kidney congested, punctated, and its epithelial cells fatty. The anatomical changes were confined to the convoluted portions of the tubules. The sacculated condition of the kidney was an occasional accompaniment. The heart was usually feeble, and there was an increase of the watery element of the blood, with decrease and disintegration of the red corpuscles.

Reflex disturbances were prominent. Neuralgia in brachial, femoral, dorsal, epigastric, and other regions was common. The skin was dry, harsh, and rough, with a yellowish tint. The mucous membranes were congested. The tongue was often red, streaked, and covered with thick, tenacious mucus. Sweating was common, with certain anatomical peculiarities. Often one side, a limb, the soles of the feet, or the palms of the hands, would alone be affected. Œdema of the extremities toward the termination was quite common.

Death was produced in various ways. Exhaustion and secondary lung complication were some of them, chronic pneumonia, without tubercular deposit, being a fertile source. Patients occasionally fell into coma and thus passed away. During the course of the disease various skin eruptions made their appearance, often in groups. Lichen, impetigo, eczema, furuncles, carbuncles, and gangrene were all found at times. Where the latter appeared, speedy death was almost inevitable. Gangrene of the lung occasionally carried off the patient. No satisfactory treatment had been discovered. The best results had been obtained from the treatment recommended by Dr. Banting for the reduction of obesity, with the addition of gluten biscuit, or those made from almond flour. It required from twenty-four to forty-eight hours first to find out by tests the quantity of sugar in the urine. Then, having put the patient upon the above diet, the urine should be examined in two weeks to observe progress. If the sugar was reduced one half at the end of three or four months, moderate success was being obtained. As to medicines, opium seemed beneficial. Its principle, codeia, had been suggested. Mr. Ralph recommended the bimecolate of morphine. It was best to use the drug tentatively. Instead of several times a day, administer a fair dose at night, afterward increased if necessary. The opium habit was apparently not so liable to be contracted by these patients. Bromides and salicylates had also been used, and phosphorus when there was a nervous element; acids and pepsin when there was indigestion present. Steam baths and hot douches were beneficial for their effect upon the skin. Whatever the plan of treatment adopted, it would be likely to disappoint in most cases. Those improving rapidly and readily most probably had glycosuria, which would be relieved any way.

As to physiology, it was supposed that some congestion or irritation of the liver either interfered with the action of the cells, thus allowing the sugar to pass through unchanged, or else caused an overstimulation of said cells, resulting in overaction of the sugar-producing function.

Dr. Crenshaw recommended Waukesha Springs for diabetes. The Bishop of Canada had been apparently cured and many others greatly benefited by this water. Siluria and Bethesda waters were also used. The speaker cited the case of a man in this city who, though rejected twenty-five years ago by an insurance company on account of diabetes, was now living, thanks to Wahkesha water. He had dieted himself very little in the mean time. Carlsbad water would probably benefit dyspeptic cases; opium those in which brain symptoms were manifested. He did not believe, however, that true diabetes mellitus could be cured.

Dr. Edwards mentioned that Balmanno Squire, of London, had recommended phosphorus as a specific cure for diabetes. Squire had prescribed phosphorus for a skin eruption upon a patient who also had glycosuria. The effect had been a cure of both. If there was any one remedy in the form of a drug, it would seem to be phosphorus. He thought the benefit from the various springs was transient. Some years ago he had prescribed Buffalo Lithia Water for a clergyman afflicted with glycosuria. He had been apparently cured, but the trouble returned, and, in order to gain benefit, he had been compelled to alternate between Buffalo Lithia, Allegheny, Blue Ridge, and Raleigh.

Mr. Blair believed, as to the waters, that pure water was the secret of benefit; therefore he suggested distilled water. He thought that phosphorus would prove as ineffectual as all other drugs. He believed a young subject affected with diabetes mellitus would certainly die; an old one would probably prolong life by diet and other means until killed by some other disease. He related the case of a hospital patient who, not improving much, went to his work and, though he was not cured, he grew better from that time. The speaker would recommend employment. He would suggest in the way of food wheaten bread, cut very thin and toasted. Dextrin would not be so readily converted into sugar as starch. All the remedies that had been used appealed to the nervous system. Sugar in the urine was no proof of diseased kidney; but that organ would be injured by the long-continued passing of such quantities of water through it. He had known of a woman (diabetic all her life) passing as much as a pound and a half of sugar *per diem.* He referred to a man in this city who for twelve years had been afflicted with diabetes. Six months ago he had been dieted, with the result of the disappearance of sugar. He was now dying from the effects of contracted kidney. Twelve years ago he had received a great mental shock, which was probably the cause of the diabetic trouble. Though he now passed large quantities of urine, the specific gravity was low. This was one of the symptoms of contracted kidney, due directly, however, to the hypertrophied heart.

AMERICAN NEUROLOGICAL SOCIETY.

Sixteenth Annual Meeting, held at Philadelphia, June 4, 5, and 6, 1890.

The President, Dr. E. C. Spitzka, of New York, in the Chair.

Unusual Forms of Chorea, possibly of Spinal Origin.—This was the title of a joint communication by Dr. S. Weir Mitchell and Dr. C. W. Burr. The first case described was one of inherited congenital chorea, possibly involving the spinal cord. The patient, a young man eighteen years of age, had presented himself at Dr. Mitchell's clinic in 1889 complaining of constant involuntary movements of the legs, arms, and head. The history of the patient's family was of special interest in this case. His maternal grandmother had suffered from chorea for many years, not from birth, but she had while so affected given birth to the patient's mother, who was choreic from birth till death. Both the patient's parents had died of phthisis. There was no history of other cases of chorea or any nervous disease in the family. The patient's choreic movements began in early infancy, probably from birth. As a child he was puny and of tardy development. His present condition was that of a fairly built young man of good strength, weighing one hundred and thirty pounds. Other than the condition immediately associated with the chorea there was no physiological disturbance. The knee-jerk was increased on both sides, and the cremasteric, plantar, and abdominal reflexes were marked. Ankle clonus was occasionally present, and at times rigidity at the knee, the feet being then turned toward inward at the ankle. All the conditions were increased by emotion and the administration of moderate doses of strychnine. Sensation to touch, pain, and temperature were normal, and so was station. While awake, the patient's entire voluntary muscular system was more or less in action. The sudden presence of a stranger emphasized the trouble. During sleep there was perfect quiet. No spinal tenderness had existed, urine was normal, and so, with some slight muscular insufficiency excepted, was vision.

Dr. Mitchell then read in detail the histories of two other cases in which the patients were brothers, their father having, at forty-five years of age, developed alleged choreic symptoms. The first of these two cases had resembled in general aspect canine chorea.

The authors of the paper thought the first of the series of three cases, in which the disease had run through three generations, extremely rare. That organic changes were present somewhere in the motor tract of the patient might, they thought, be admitted, because of the extreme chronicity of the affection, its resistance to all treatment, and the presence of very distinct ankle clonus and rigidity, these latter symptoms pointing to involvement of the cord. Whether the changes were confined to the cord it was more difficult to say. It was not wished to do more than indicate the spine as possibly implicated in all the cases.

Double Consciousness.—Dr. Mitchell then alluded to the notorious case of Ansell Brown, who had left his home, assumed another name, and, as asserted, had lived some time without knowledge of his previous existence. On regaining control of his proper identity he had returned. Hypnotism had been recently tried upon him. While under its influence the man's mind could be made to revert to incidents in his fictitious existence, while of his real identity he would then know nothing.

The Weather in Relation to Neuralgic Pain.—Dr. Mitchell related the history of a patient of his who had made elaborate studies and observations of the effect of variations of the weather upon neuralgia, from which he was a great sufferer. The scientific findings, briefly stated, were that the maximum of pain bore direct proportion to the prevalence of storms, and that the aurora was a certain precursor of neuralgic exacerbation.

Chronic Softening of the Spinal Cord; Senile Paraplegia.—Dr. C. L. Dana read a paper on this subject, narrating a case which he said established upon a firm foundation, for the first time, the fact that in the gray matter of the cord there might exist progressive softening from obliterating arteritis, just as was found in the brain. It also established the pathology of senile paraplegia, no convincing evidence as to the nature of which had, until recently, been adduced. The question of non-inflammatory softening of the cord had been but obscurely dealt with, or let entirely alone. Acute softening had been described, usually as synonymous with acute myelitis, but the term was wrongly used and should not be applied to inflammatory processes at all. It had of late been suggested that some of the cases of acute myelitis were in fact primarily necrotic processes, but evidence was lacking in substantiation. The case he would describe did not belong to the acute type, but was a chronic myelo-malacia.

The patient, an old man of seventy years of age, of whose early life little could be elicited except that he had been generally healthy, had about four years ago noticed some weakness of the legs. There was no pain. This condition had progressed until one year ago. There was complete disability to walk, incontinence of urine, and trouble with the rectal sphincters. When seen in 1889 the man had presented the characteristic appearance of senility. The symptoms of the disease were limited to the lower extremities, which were wasted and contractured. The knee-jerks were gone; there was also no clonus or trepidation. Sensation was everywhere normal—indeed, the condition was rather that of hyperæsthesia. No pains in the legs—girdle pains or bedsores. Up to the time of the patient's death, which had resulted immediately from exhaustion, the general symptoms had changed but little. The mind was clear, though senile. The only gross changes in the cord or membranes was noticed in the anterior horns in the sections taken low down. The more minute examination of microscopical sections had demonstrated the case as one of degenerative endarteritis with sclerosis, obliteration of the vessels causing the softening of the anterior horns and intermediate gray matter. This process was accompanied by secondary congestion, dilatation of small vessels and capillaries, but no hæmorrhages. The condition was one of softening of the cord, precisely analogous to the so-called softening of the brain. It was not inflammatory and could not be termed an anterior polio-myelitis. It was not a cell atrophy, and did not belong to the spinal forms of progressive muscular atrophy. While the change was, without doubt, largely a senile one, the cord did not correspond to the description of such conditions given by Leyden. The disease might, the speaker thought, be called a senile paraplegia from softening of the anterior horns due to obliterating arteritis.

Traumatic Neuro-psychoses.—Dr. G. L. Walton read a contribution to this subject in which he dealt exhaustively with the questions of pathology and prognosis in injuries inflicted upon the nervous system by railway collisions and similar accidents. Under the influence of Erichsen's views, functional and organic injuries were for a long time indiscriminately classed together under the ambiguous and misleading term spinal concussion, while a common prognosis was given to all, leaving the student in doubt as to whether the worst or best results might be anticipated. To H. W. Page was due the credit of having elaborately corrected this inaccuracy and of sifting out the comparatively rare cases of organic spinal disease, whose sad course and prognosis had been so long allowed to overshadow and include the more common cases in which no demonstrable lesion existed. To the latter class he had first applied the term traumatic neurasthenia. Dr. Putnam, in 1883, after reporting several cases of traumatic hemianæsthesia, had called attention to the importance of looking for evidences of typical hysteria, in the chronic as well as in the acute stages of so-called spinal concussion. Among those who had early inclined toward the modified views regarding the effects of trauma on the nervous system might be mentioned Dr. Dana, who, writing in 1883, had very appropriately added hypochondriasis to the two terms already applied. Spitzka had considered that spinal concussion could produce spinal irritation. These theories were in direct opposition to the idea advanced by Westphal—that a diffuse sclerosis was set up by the jar. This view had many followers, both in Germany and America. In a recent work by Clevenger, of Chicago, it was proposed to give to these cases the name "Erichsen's disease." This writer regarded the spinal sympathetic system as the starting point of the pathological process. Seguin, in Sajous's *Annual* for 1889, considered organic injury to the nervous system a rarity as resulting from the forms of trauma under consideration. Without exhausting the literature of the subject, it might fairly be concluded that there was at present a very general, though not unanimous, tendency to abandon the theory of spinal concussion, and to regard the majority of the genuine cases as identical with already recognized functional forms of disease rather than cases of organic spinal injury. Dr. Walton's experience had lead him from the first to regard disease of the spinal cord resulting from trauma as of comparative rarity, when no dislocation or fracture had occurred, while Seguin's conclusions regarding the preponderance of the subjective symptoms, and the degree in which we were generally dependent on the patients, were fully justified by the majority of the cases which had come under that writer's observation. In examining such cases for legal purposes, we should avoid the tendency of accepting the statements regarding previous health for fear of coincident trouble. Analysis of one hundred successive cases, where nervous symptoms were complained of and where the question of damages had arisen or was likely to arise, gave the following result: Two were cases of vertebral fracture, one of vertebral dislocation, one of injury to cervical nerve roots, two of neuritis, one of long-standing spinal sclerosis, one of old infantile paralysis, one of extensive atheroma, one of choroiditis, four of heart disease, one of cystitis of local origin, and two of severe constitutional disease; four of these seventeen had died. The remaining eighty-two cases, with the exception of the simulants, would come under the class designated as neuro-psychoses.

A Case of Complete Paraplegia cured by Operation.—Dr. F. X. Dercum presented a middle-aged man with the following history: This patient had in 1887 suffered severe pain in the arms and shoulders. The pain was referred to the principal nerve tracts in the arms. Some time after this he had lost power in his legs. Then about October of 1888, in addition to complete paraplegia, there was loss of sensibility, but with constriction pain about the upper portion of the chest. There was complete paralysis of both sphincters. Examination had revealed the fact that the man's back was very painful over the third, fourth, and fifth dorsal vertebræ. Thinking there might be some local cause for the paralysis, trephining was decided upon. The spines and arches of the first to the fifth dorsal vertebræ, inclusive, were accordingly removed. The dura was found somewhat abnormally resistant to the touch, and was opened. Adhesions existed between the dura and the pia. After the operation, which the man had borne well, he at once said that his pain was absent. A few days afterward he was able to feel his foot when touched. Then he was sensible that his hands were cold, and was able in a few days more to move his toes. There had been a very gradual but steady progress toward complete recovery. He had also regained control of the sphincters. Whether the result was to be ascribed to relief from pressure or to reaction from the shock of the surgical operation, the speaker did not venture to suggest. The paraplegia was probably the result partly of pressure and partly of myelitis.

Pathological Findings in a Case of Athetosis.—Dr. G. M. Hammond presented a report on the pathological findings in the original case of athetosis, on which Dr. W. A. Hammond's description of athetosis had been based. After briefly referring to the case, Dr. Hammond stated that the portion involved in the lesion consisted of fibrous connective tissue. Topographically, the lesion was a lengthy one in the antero-posterior direction, parallel in its short axis with the internal capsule. Its posterior end invaded the stratum zonule of the thalamus in its posterior third, and the posterior third of the posterior half of the internal capsule. In its anterior extension it crossed the capsule, invading the posterior third of the outer articulus of the lenticular nucleus. The author called attention to the fact that the motor tract was not implicated in the lesion, and claimed that this case was further evidence of his theory that athetosis was caused by irritation of the thalamus, the striatum, or the cortex, and not by a lesion of the motor tract.

The President reported a case of hemi-athetosis in which the lesion was found to be in the same situation as the one in Dr. Hammond's case.

A Case of Locomotor Ataxia associated with Nuclear Cranial-nerve Palsies and with Muscular Atrophies.—Dr. Frederick Peterson reported the history of the above-named case. The patient had been under the writer's observation since March, 1890, but the features of the case had been previously described by Dr. Seguin in the *Journal of Nervous and Mental Disease* for May, 1888. It was the first of five cases of ophthalmoplegia reported by that author. As there had been so many new developments in the patient's condition during the past four years, it was thought best to briefly outline the history from the first observations made up to the time when he had come under the writer's notice. M. J. T., now thirty-seven years of age, had had a chancre and secondary symptoms fifteen years before. In 1882 he discovered one morning dimness of vision and external strabismus of the left eye, with diplopia. Subsequently shooting pains in the legs and arms had developed. In 1883 he had a momentary loss of consciousness. During this year he had been under specific treatment at Hot Springs for some time. In 1884 there was partial double ptosis. In 1886, when lost sight of by Dr. Seguin, the ptosis was a little greater and the bladder was paretic. There was mild paresis of the right hand. Dr. Seguin, writing in 1888, said of this case that some of the symptoms seemed to justify a suspicion of incipient "posterior spinal sclerosis." Since 1886 until the present time there had been gradual progress in the disease. The main features of the case might be summarized as follows: The patient had had a number of bilateral motor cranial palsies—namely, of the third, fourth, fifth, and sixth nerves. He had also exhibited slight traces of crossed paralysis for more than four years. Locomotor ataxia had developed, as was shown by the occurrence at one time of lightning pains and by the presence now of ataxia, widely distributed anæsthesias, failure of knee-jerks, ocular, vesical, and anal symptoms. Finally he presented marked trophic changes in numerous muscles. As to the morbid processes underlying these various manifestations, there was, in the first place, undoubtedly a sclerosis of the posterior columns of the spinal cord. The ophthalmoplegia was of course nuclear. Read in one way, the symptoms on the side of the cranial nerves, taken in conjunction with the muscular atrophies and paralyses elsewhere, certainly very closely resembled the syndrome so well described by Dr. Sachs in a paper last year under the title of Polioencephalitis Superior and Poliomyelitis. The most important matter to be settled in this case was whether the muscular atrophies were due to peripheral or central lesions. Speculation upon the question would seem to be of very little utility, and its solution must be left to the hoped-for autopsy. It had been assumed by a number of authors that total paralysis of all of the muscles supplied by the third nerve implied not a nuclear but a nerve-trunk palsy. In the writer's case all of the muscles of both third nerves were totally paralyzed, including both irides, and yet there was every reason to believe that the palsies were nuclear. It would at least be difficult to conceive of a lesion at the base of the brain so widely affecting the trunks of both third, fourth, and sixth nerves, and the motor portions of both trigemini, yet permitting the escape of the sensory portions of the latter.

Multiple Neuritis, or Beri-beri, among Seamen.—Dr. J. J. Putnam reported about twenty cases of a disease resembling beri-beri, but possibly another form of multiple neuritis, occurring among fishermen in northern latitudes, and referred to a similar series of cases reported by Dr. F. C. Shattuck in 1881. By correspondence with physicians in the seaport towns, Dr. Putnam had ascertained that, besides the larger epidemics, sporadic cases had occurred from time to time. One physician had reported frequent cases of swelling and numbness of the hands, attributed to handling fish. The influence of alcohol and the metallic poisons could be excluded; and, since the outbreak had occurred only now and then, the influences to which the seamen were habitually exposed could hardly be considered as the whole cause, though insufficient food had seemed to play a part in some instances. Most of the patients had recovered, but some had died.

On Cases of Postero-lateral Sclerosis, with Special Reference to the Pathology of the Disease.—Dr. Putnam referred to a series of eight cases of similar character, presenting the symptoms of "combined sclerosis" of the spinal cord, which he had seen during the past few years, and reported four of them, in which he had examined the cord microscopically. All the cases of the series, though differing in some respects, resembled each other as follows: All the patients were past middle life, and all were either anæmic or in a state of poor nutrition. The symptoms in all consisted in both motor and sensory disorders in all four limbs, sometimes associated with inco-ordination, sometimes not. The upper knee-jerk was exaggerated in all but two or three; in those it was absent. Tabetic pains were present in one case only. Anatomically, sclerosis was found in the posterior and lateral columns, varying in exact position. In almost every case the posterior change seemed the older and most intense. Besides the "typical" sclerosis, there was evidence of a more recent process, characterized by granule-cell formation and the breaking down of the nerve tubes so as to form circular or oval spaces. This new process was developed on the borders of the older change. The gray matter of the cord was more or less affected, and the nerve roots in about the same degree. The cases had all run a rapid course, terminating, after one to four years, in death, preceded by paraplegia due to non-inflammatory softening. Next to inherent structural weakness, as an ætiological factor, came impaired nutrition and toxic influences. The importance was pointed out of recognizing and attempting to meet the partial courses of the disease, of which several might be present at once. As special stigmata of degeneracy in these four cases, the writer referred to the mental condition and family history of several of the patients, to the remarkably abnormal shape of the cord in one, the small size of the dorsal gray matter in another, and the presence of a second central canal in a third.

On Ingravescent Apoplexy.—Dr. C. L. Dana read a paper with this title. He said that there were three sets of intracranial blood-vessels—those in the dura, those in the pia mater, and those in the substance of the brain. We had, correspondingly, three types of intracranial hæmorrhage. The central hæmorrhages were far the most common, and presented a tolerably uniform clinical type. There was one form, however, which seemed to have escaped critical attention, though it could not be excessively rare. In 1876 Dr. Broadbent had reported six cases of what he termed "ingravescent apoplexy." In 1889 M. P. Puesch, of Montpellier, had also reported a case of the same character. The writer had met two cases presenting the general clinical characters of ingravescent apoplexy, but was able to make an autopsy upon only one, of which the history was as follows: A woman was brought to the hospital on May 1st without any history. She was in a stupid condition, but not unconscious, and she was at first thought to be intoxicated. Examination showed, however, some hemianalgesia of the left side and slight hemiplegia of the same side. The right pupil was slightly contracted, temperature normal, pulse tense. Next day the patient's mind was clearer; she answered questions, and recognized those about her. But the hemiplegia was very much worse, and the analgesia no better. Toward night she became more stupid, and finally comatose; œdema of the lungs developed. No contractures of the paralyzed side were noted. The temperature rose, and the patient died next day, May 3d. At the autopsy the brain was found congested. Pressure over the supramarginal gyrus showed that there was a softened place beneath it. The brain was placed in boroglycerin and alcohol, and opened later by vertical sections. These showed a clot in the lateral ventricle, and some blood in the third ventricle. Beneath the supramarginal gyrus was a large hæmorrhagic focus about an inch and a half in diameter. This extended forward and downward, cleaving the external capsule. The hæmorrhage had finally extended downward and inward and broken into the lateral ventricle. Puesch had attempted, on the slender basis of seven cases, to erect "ingravescent" or, as he called it, "progressive" apoplexy into a distinct type. This seemed to the author to be somewhat premature. The history of his case was not exactly like those of Broadbent's in respect to retention of consciousness, and the hemiplegia was relatively less marked. Yet, anatomically, it was one of the "cleaving" hæmorrhages due to rupture of a posterior branch of a lenticular artery, and running the same course as was described by Broadbent. The hemianæsthesia seemed to the author to be a very distinctive point. Practically, the question came up as to whether, in such cases, trephining would be justifiable. In general, the idea of trephining for non-traumatic hæmorrhage was not to be entertained at all. But in ingravescent apoplexy it deserved consideration, because here the hæmorrhage was accessible, and because, unless some relief was given, it would surely break into the lateral ventricle and kill the patient. In all the reported cases, also, the patients were not old, were not syphilitic, and presumably had not extensively diseased arteries. In reaching hæmorrhages in these cases, the best place to trephine would be a little below and in front of the parietal eminence. The surgeon should then explore downward and forward, care being taken not to injure the terminal branches of the Sylvian artery, which were in this neighborhood. In cases of "ingravescent" apoplexy, surgical interference, if undertaken, should be before the blood broke into the ventricles. This could be told by the sudden increase in the severity of the symptoms, and, if the blood was poured in rapidly, by contractures on the paralyzed side. The temperature changes were believed to be the same in the ingravescent as in ordinary apoplexy. The author trusted that the report of his case might excite the interest of others, and call attention to this apparently distinctive and fatal form of cerebral hæmorrhage.

Tumor of the Quadrigeminal Region, with Special Reference to Ocular Symptoms.—Dr. B. Sachs read a paper with this title. He had been fortunate enough to obtain two autopsies during the past year which bore upon this question, and had also seen several other cases which were subjected to careful clinical examination. His first case was one of unusually severe tuberculosis cerebri. The main points of the history he had been able to complete through the kindness of several colleagues. E. L., aged three years. The mother had noticed a change in the child's disposition for several months following an attack of measles. Examination had disclosed double and almost complete ptosis. There was no upward or downward movement of either eye. Both external recti muscles were thrown into clonic spastic condition when the attempt was made to use them. The interni were capable of very slight motion, but all the other ocular muscles were completely paralyzed. There was distinct accommodative power, with but slight reaction to light. Although in a semi-stupor, the child could be made to walk, exhibiting most distinct cerebellar staggering. Autopsy had revealed adhesions of the dura to the skull, with a slight increase of subdural fluid. A solitary tubercle was at once discovered near the right lateral sinus, pressing into the lateral edge of the cerebellum, and producing thrombosis of the lateral sinus. The cerebellum was the seat of the most profound changes. The base presented several unusual conditions. There was great thickening of the pia, with small tubercular deposits between the corpora mamillaria and the optic chiasm, and in the interpeduncular space. The thickening at this point was so great that both third nerves, instead of lying across the crura, after removal of the brain, pointed backward, and the right sixth was twisted out of its position. Section of the brain showed the tumor to occupy almost the center of the tegmental division of the crus, and that it had left a very small portion of the corpora quadrigemina and the brachia intact.

Mrs. L., aged forty years, had always enjoyed good health until four years ago, when she began to be troubled with headaches, vomiting, cerebral in character, and a peculiar sensation in the head on looking upward, with diplopia. These symptoms had increased until there was paresis of both internal recti. The externi acted fairly well, but nystagmus supervened if attempts were made to turn the eyes out. Upward movements of the eyes were barely possible; downward vision was limited. Knee-jerks and sensations normal. The diagnosis of opthalmoplegia nuclearis, probably polio-encephalitis chronica, was made at that time, but later abandoned, and the alternative of tremor accepted, for the patient had developed inco-ordination, with characteristic staggering, and was found to have double optic neuritis. No autopsy was obtained, but the idea of tremor in this case could hardly be rejected.

A young man, thirty-three years of age, had been under observation for several months. The patient had had chancre fourteen years ago, was thoroughly treated at that time, and had no symptoms since. The author found the patient with left ptosis, covering almost three quarters of the pupil, but could be raised slightly with great effort. Reflexes to light and accommodation were nearly normal; the left pupil was possibly a little sluggish to light. There were swelling and redness of the left optic disc. The left adducens was completely paralyzed; all other movements of the eyes were perfect. The patient was at once put on vigorous specific treatment, and kept on it for months, with no change in the condition, the general health remaining good. Was the lesion central or peripheral?

The author could not conceive of a lesion at the base of such a character that only the sixth-nerve fibers and a few of the third-nerve fibers were affected. Such a selective disorder was within the range of possibility, but, until this was proved, the fear of a nuclear lesion could not be lost sight of in such a case as that just described.

Crus Lesion.—This was the title of a second paper by Dr. Sachs. Crus lesions, he said, were rarer than many other cerebral lesions, but their symptoms were well marked. The case under consideration had some special interest, however, in connection with post-hemiplegic disturbances of motion, and from this point of view the results of the post-mortem examination were worthy of consideration. Seven years ago the patient, a woman about fifty years of age, had had a dizzy attack one morning, and had found her vision rather blurred. There was a recurrence of the attack in fifteen minutes. There was no unconsciousness or difficulty with speech; but when the patient attempted to walk she found she could not with ease; by morning she had almost complete left hemiplegia; she could not open either eye. At that time speech was heavy and indistinct, but from this she had recovered in three weeks. Hearing, taste, and smell were altogether normal. The hemiplegia was never recovered from. The patient became somewhat unruly and demented, and was finally taken to the Montefiore Home, where she had remained for many years. A few further details of the patient's chronic condition were elicited in examination. There had been no history of syphilis, but there was very marked atheroma of the peripheral arteries. In addition to the left hemiplegia, the patient had suffered amputation of the right leg above the ankle, for old necrosis of the tibia, fully six years before. There was rigidity of the left leg, and increased knee-jerks of both sides. The wrist reflex was decidedly increased on the paralyzed side, but the left upper extremity was subject to the wildest ataxic movements. This would go on until the arm dropped from exhaustion, when it would remain quiet until aroused again by an effort to use the hand. She had become extremely emotional, took very little nourishment, and had finally died. The diagnosis of crus lesion of the right side, probably softening from thrombosis, was made, and confirmed by the autopsy.

Remarks on Therapeutics as applied to Nervous Disorders.—Dr. W. R. Birdsall read a paper with this title. While admitting that many of the diseases which the neurologist was called upon to investigate were practically incurable, the author maintained that those who saw no advance in the therapeutics of nervous diseases were probably looking in the wrong direction for progress, the advance being in great part the outcome of those very investigations considered by many as unpractical scientific refinements. The early diagnosis of disease he regarded as the most important factor for therapeutic success in diseases of the nervous system, as it frequently enabled the physician to check the course of the disease where marked disability had not yet resulted. Hygienic measures were considered of prime importance, and pharmaceutical remedies as valuable accessories, in the treatment of these diseases. All relation between storage and expenditure must be readjusted to the disturbance in equilibrium, and the therapeutics consisted in bringing about such a readjustment by any means in our power. The modern craze for so-called physical culture, the author believed, was bringing forth dangers as great as those it was sought to remedy, through over-training, improper training, training for brain workers which fatigued rather than rested the brain, together with other faulty methods. Hydrotherapy he considered was much neglected, and electrotherapy overestimated. Next to hygiene, cutaneous irritation was decidedly the most important therapeutic measure possessed by the neurologist. Surgical interference and the drugs usually employed by the neurologist were briefly referred to.

Diffuse Cortical Sclerosis of the Brain in Children.—Dr. William N. Bullard read a paper with this title. He thought it was rather doubtful whether cases of cortical sclerosis could always be distinguished from forms of diffuse sclerosis in which the cortical layers were not specially affected. The history of a boy, aged twelve years, was given, in which, after an accident—a fall, striking the head on the curbstone—there had been gradual loss of mind with total paralysis of the left extremities, and death fifteen months after the accident. The autopsy had revealed œdema of the pia, chronic leptomeningitis, atrophy of the brain, with secondary chronic internal hydrocephalus, and chronic ependymitis of the fourth ventricle. Microscopical examination of the brain showed the first layer of the cortex, the fibrous network, to contain a few spider cells in the mesh due to atrophy of the nerve fibers, and an increase in the neuroglia. There was a slight degree of nerve-cell infiltration of the adventitial sheaths of the blood-vessels in the cortex. Beyond this there was nothing else abnormal. Provisional conclusions were that there existed in children a non-congenital form of diffuse cerebral sclerosis in which the cortical layers of the brain were more specially affected, and which was distinguished from the other forms by its appearance in healthy children, either without known cause or after traumata, by the steadily progressive character of its symptoms, and by the especial prominence of the gradually increasing dementia, which finally reached an extreme degree without a corresponding loss of motor power and while the sensation was comparatively unaffected.

Officers for the ensuing Year were elected as follows: President, Dr. Wharton Sinkler, of Philadelphia; vice-presidents, Dr. C. L. Dana, of New York, and Dr. S. G. Webber, of Boston; secretary and treasurer, Dr. Græme M. Hammond, of New York; councilors, Dr. J. A. Walton, of Boston, and Dr. L. C. Gray, of New York.

Special Articles.

LETTERS TO MY HOUSE PHYSICIANS.

By WILLIAM OSLER, M. D.,

BALTIMORE.

Letter I.

Freiburg, *May 17, 1890.*

Dear L.: This is a charming town, beautifully situated at the southwestern end of the Black Forest, and with a medical faculty which attracts students from all parts of Germany and not a few from abroad. During the past few years the number of men in attendance has risen rapidly and the semester has reached six hundred. I met here my friend Ramsay Wright, of Toronto University, and together we saw much of interest.

Bäumler, who has charge of the medical clinic, is a man of about forty-five, and we are very much indebted to him for making our short stay here agreeable and profitable. He was in London at the German Hospital, and subsequently practiced there as a consultant for nine years, when he was called to the chair of medicine. The medical wards, containing about one hundred and twenty beds, are very conveniently arranged, and the plan of having a separate lecture-room for each department, which is almost universal at German universities, is very advantageous. There are three assistants, the first of whom, Dr. Reinhold, has been here three years, and, as is customary, is appointed for an indefinite term. The second and third assistants remain for one or two years. In addition, four men are named for periods of three months to act as clinical clerks in the wards.

To-day's routine was as follows: At 7 a. m. the professor gave a didactic lecture (of which five are delivered weekly) to about a dozen students, the small number being due to a holiday yesterday and in part, no doubt, to the fact that attendance upon these systematic lectures is not compulsory. The subject was Diseases of the Œsophagus, and spontaneous rupture, perforation, and hæmorrhage were discussed in a most exhaustive manner. Afterward, in his private room, Dr. Bäumler raised the question of the value of such teaching to the medical student and suggested that the same might be got in a shorter time from books. Possibly; and, though I am strongly opposed to our present system of over-lecturing, I could not but feel that the men who had listened and taken notes had got their information in a much more interesting and instructive manner than if they had read the subjects in any text-book. Indeed, I do not know of any one *Practice* which contained all the information given in the three quarters of an hour. The question must be discussed temperately, as it has two sides, one of which is ably presented in the May number of the *New Review* in a Lecture against Lecturing, by Professor Sedgwick.

One thing in the lecture-room pleased me greatly: around the walls were inscribed on each side—above the names of Hippocrates, Galen, Vesalius, and Harvey, and beneath these in groups—those of the great clinicians of all countries; and it warmed my heart to see, as the representatives of America, the names of Flint and of dear old Dr. Bowditch. At 8 o'clock the visit to the wards was made and new or specially interesting cases examined. In commenting upon a case of typhlitis, Bäumler spoke of the great frequency of recovery in this disease, which he thought, as is now almost universally accepted, was always at first an affection of the appendix. The tendency toward early operation was, in his opinion, at present too strong. I mentioned the case which we had in the wards a few months ago, and which was certainly a most encouraging one in support of early interference; but who can say whether the small localized abscess found by Dr. Halsted at the point of the appendix might not have healed, or at any rate subsided, as the inflammation had done in a previous attack? Still, no one will deny that the lad is not better without his rudimentary appendage.

At nine o'clock the students assembled in the large ward, in the center of which chairs were arranged on either side of a bed, a method which is followed in the case of fever patients, and other cases too ill to take to the auditorium. A *Practicant*, as a final student is called, was then asked to examine the patient before the class, and an hour was occupied in the thorough investigation of the case—one of typhoid fever. Comments were made on each interesting feature, and the symptoms summed up in a clear and orderly fashion, most instructive to the class, the members of which had an opportunity of afterward looking at the case. Typhoid patients are uniformly bathed whenever the temperature rises to 103° F., and no internal antipyretics are used. The good effects are not, it is thought, confined to the lowering of the fever. The mortality is here only about eight per cent. lower than in the ordinary symptomatic method; but you shall hear much more on this subject. A convenience which we do not always see in American hospitals is the stand in each ward for the examination of the urine, and a microscope with the necessary reagents. A clinic is held daily, and on Wednesday it lasts two hours; so we concluded that the Freiburg professor did a very full day's work before ten o'clock in the morning. In another ward we found waiting four candidates for the *Staats-Examen*—the test demanded by the State and which is a very formidable affair, lasting for several days in each subject. We then went to the post-mortem room to see a case of bullet-wound of the brain. Ziegler, the professor of pathology, came here last year from Tübingen, and lends additional strength to the faculty, as he is one of the most progressive of the younger generation of workers in his department. To English and American students he has become well known through McAlister's translation of his work on pathological anatomy, which has had an extraordinary success here, a sixth edition being in course of publication. He is a young-looking man, with a pleasing, frank manner, and he gave us a hearty welcome and asked us to come to the post-mortem room to see an examination of three students for the license (*Staats-Examen*), and a most practical test it was. The men drew lots for trunk, head, and position of scribe. The poor fellow who began the work had evidently not been a diligent attendant in the post-mortem room, for he bungled the inspection of the abdomen and thorax in a shocking manner. The examination of the heart—the *pons asinorum* of dissection—loosened his sweat centers, but Ziegler dealt with him most gently, considering the repeated aggravations. We could not wait to see the end, as it was a matter of several hours. In addition to this searching examination, there are others in pathological histology and general pathology. Von Kahlden, the Docent in pathology, showed us the laboratory, which is not large but very well equipped, particularly for histological work. We afterward spent a very pleasant evening with Ziegler and von Kahlden, both of whom are genial, sociable men. Ziegler must be most industrious, as, in addition to the teaching, which occupies, he said, at least three hours a day, the revision of his text-book has been continuously in hand, the editions having followed each other so rapidly; then he edits his *Beiträge*, which has become a most important pathological journal, and recently, in conjunction with von Kahlden, he has established the *Centralblatt für Pathologie.* By the way, I have sent out von Kahlden's new book on histological methods. Call the attention of S. to the section on Ehrlich's blood methods, which seems fuller than is usually given. To-day we saw Ziegler perform a most interesting autopsy before the class in a case of bullet-wound of the brain. Early in April the young lad had attempted suicide, and had discharged a revolver twice at his head. One bullet flattened against the frontal sinus, where it was found post mortem; the second passed through the left hemisphere to the occipital lobe, where it lay on the median surface close to the cuneus. There was a firm-walled tract in the course of the bullet. An operation for abscess had been performed yesterday, apparently only by enlargement of the original orifice and the insertion of a drainage-tube. There was extensive basic meningitis. The boy was hemiplegic and aphasic, but we did not learn whether an examination of his visual fields had been made, which would have been of great interest considering the position of the bullet in the occipital lobe.

One of the assistants showed us through the new surgical clinic, which is not yet completed. The operating theatre is very well arranged, with a composition stone floor and iron frames for the seats, so that the whole room can be flushed with the hose and thoroughly cleansed. Carbolic acid is the chief disinfectant, bichloride being rarely used, and the gauze for dressings is simply sterilized.

The Anatomical Institute is a fine new building, of about the size of one of the pay-wards, with a large lecture-room in the rear. Professor Wiedersheim is in charge, and, as is customary in German universities, is an anatomist in the wide and proper sense of the term, having to teach human and comparative anatomy and histology. One of his assistants takes the surgical anatomy, and this really meets the objection one often hears urged in America against a pure anatomist teaching medical students. In a well-equipped anatomical department how easy it would be to have one of the surgical assistants teach the senior students the surgical relations of the subject in special courses! The anatomical lecture-room is one of the best I have seen—high and spacious, with splendid light from the roof and sides. In the center of the arena is a trap-door with hydraulic arrangement, by which, on turning a key in the floor, a table ascends from the preparation-room below. Wiedersheim is a beautiful draughtsman, and the blackboards were covered with elaborate diagrams, in colored chalks, of the origin of the cranial nerves. In the schemata which he thus makes of the nervous system from day to day he always uses the same colored chalk to indicate the same structure at different levels.

A man who has brought much renown to the university is Weismann, the professor of zoology, whose writings on heredity and Darwinism have attracted so much attention. In a recent pamphlet, *Ueber die Hypothese einer Vererbung von Verletzungen*, he makes a strong criticism of the recorded instances of the inheritance of peculiarities of structure acquired by accident or disease. His collected essays have been issued in English by the Clarendon Press, at Oxford, and form, perhaps, the most notable contributions to the theory of evolution which have been made during the past decade.

We came to the conclusion that Freiburg had a most progressive university, and certainly, so far as medicine, pathology, and anatomy are concerned, the post-graduate student will find everything that he could desire.

Book Notices.

A Text-book of Obstetrics, including the Pathology and Therapeutics of the Puerperal State. Designed for Practitioners and Students of Medicine. By F. Winckel, Professor of Gynæcology and Director of the Royal Hospital for Women, etc., Munich. Translated from the First German Edition, with Permission of the Author, under the Supervision of J. Clifton Edgar, A. M., M. D., Adjunct Professor of Obstetrics in the Medical Department of the University of the City of New York. One Hundred and Ninety Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. xxiii–17 to 927. [Price, $6.]

No one is better known for painstaking work than the author of this treatise, which is rather more voluminous than the average work upon obstetrics. Perhaps this may have resulted, in part at least, from the extensive opportunities which he has had for observation. Not only was he conversant with the experience of his father and grandfather in this field, but he also tells us that since 1864 the enormous number of 17,200 obstetric cases have been under his direction. We have a right to expect ripeness of opinion after such an experience. A noteworthy peculiarity in this, as well as in all other works on obstetrics, as a rule, is the painfully minute attention which is given to directions concerning the care of the pregnant and parturient woman. Perhaps it is a pardonable fault, if indeed it is a fault, to exceed in giving directions to an embryo accoucheur as to the simplest and most obvious requirements, but such a plan allows little scope for the quality which we Americans know as common sense, which ought to be an indispensable prerequisite to the practice of obstetrics.

With the arrangement of the various subjects in this book no fault can be found. It is progressive and judicious, and suited to the requirements of learners. The subject of extra-uterine pregnancy is unsatisfactorily treated of. Every one knows Winckel's preference for treating this condition with hypodermic injections of morphine, which seems, to us at least, a haphazard way of treating a most serious condition. There is no apparent change in his views of the pathology of this condition, notwithstanding the wonderful contributions of the past few years. Tait's name is not mentioned in this connection. This is bad for the book and does not hurt Mr. Tait. We do not know what the author's opinion of Mr. Tait personally is, and again Mr. Tait may not be right in his rather narrow view of the pathology of this subject, but no one who is writing a book or a chapter on extra-uterine pregnancy can afford to ignore Tait's contributions to this subject.

The author is generally inclined to be fair and generous in his treatment of Americans, but we do not agree to his statement that "clinical observation of normal and abnormal labors is at a very low ebb in North America, with the exception of New York, Boston, and Philadelphia." If this were strictly true it would be a sad commentary on the obstetric instruction which many hundreds of Americans have received in Germany and elsewhere in Europe. Again, he is in error when he says that the disproof of the statement that there are but few instances of contracted pelvis in the United States is seen in the great number of urinary fistulæ among parous women here. As a matter of fact, urinary fistula resulting from parturition is a rare accident with us nowadays. It would hardly be rash to say it was rarer than in Germany, and Emmet showed long ago, in collating his enormous experience upon this subject, that very many of his cases were imported from Europe. Such cases are usually sent to city hospitals for operation, and perhaps the great diminution in their number during recent years argues better obstetrics in Europe as well as in America. Winckel thinks the statement that there are few contracted pelves here is unjustifiable until thousands upon thousands of pelvic measurements have been made. In our opinion, a short cut to a conclusion which is equally valid is furnished by the fact that there are so few cases of lesion which results from contracted pelvis. This is not intended as any disparagement to the study of the anatomy of the bony pelvis, which has no doubt been too much neglected with us. The subject is here treated of by a master in a way which is both comprehensive and entirely intelligible.

The impression which one gets of Winckel the teacher and the obstetrician from the perusal of his book is one of great respect for his learning and for his conservatism. His idea seems to us the true one, that pregnancy and parturition are simply physiological processes, which, as a rule, require slight interference, and should not be interfered with or disturbed for slight causes. As to the work of the translator, it has been admirably done, and we congratulate him on so faithfully rendering into English the work of his teacher, from whom we doubt not he derived much healthful inspiration.

The Surgery of the Kidneys: being the Harveian Lectures, 1889. By J. Knowsley Thornton, M. C., Surgeon to the Samaritan Free Hospital, etc. Nineteen Illustrations. London: Charles Griffin & Company, 1890. Pp. vii–102.

Mr. Thornton has very happily arranged these lectures and has included most of what is at present known regarding the surgery of the kidneys. They form very entertaining as well as instructive reading, and are particularly valuable to the practitioner who can not devote much time to this subject.

Food in Health and Disease. By I. Burney Yeo, M. D., F. R. C. P., Professor of Clinical Therapeutics in King's College, London, etc. Philadelphia: Lea Brothers & Co., 1890. Pp. x–583. [Price, $2.]

The author has aimed to make this work one of practical utility and to render it as far as possible representative of the subject that it treats of. It is concise, suggestive, and available for emergencies as well as for conditions requiring careful study. Diet in gastric disorders, diabetes, gout, anæmia, consumption, etc., receives careful attention according to the dictates of modern research.

May's Diseases of Women, being a Concise and Systematic Exposition of the Theory and Practice of Gynæcology. For the Use of Students and Practitioners. Second Edition, revised by Leonard S. Rau, M. D., Attending Gynæcologist to Harlem Hospital, Outdoor Department, New York, etc. With Thirty-one Illustrations on Wood. Philadelphia: Lea Brothers & Co., 1890. Pp. xii–25 to 373. [Price, $1.75.]

That such works as this are necessary is shown by the call for a second edition. The author disavows any originality in the work, and states plainly that it is only a compilation from standard authors. As a quiz book or a book of reference for one who is too much occupied to consult the sources from which this is drawn, it will play a useful part.

BOOKS AND PAMPHLETS RECEIVED.

Mineral Springs and Health Resorts of California, with a Complete Chemical Analysis of every Important Mineral Water in the World. Illustrated. A Prize Essay. Annual Prize of the Medical Society of the State of California, awarded April 20, 1889. By Winslow Anderson, M. D., Assistant, Chair Medical Chemistry and Materia Medica, and Teacher of Chemistry in the Laboratories of the University of California, in the Medical and Dental Departments, etc. San Francisco: The Bancroft Company, 1890. Pp. xxx–3 to 384. [Price, $1.50.]

Rheumatism and Gout. By F. Leroy Satterlee, M. D., Ph. D., Professor of Chemistry, Materia Medica, and Therapeutics in the New York College of Dentistry, etc. Detroit: George S. Davis, 1890. Pp. 83. [The Physician's Leisure Library.]

Philosophy in Homœopathy. Addressed to the Medical Profession and to the General Reader. By Charles S. Mack, M. D., Professor of Materia Medica and Therapeutics in the Homœopathic Medical College of the University of Michigan at Ann Arbor. Chicago: Gross & Delbridge, 1890. Pp. 7 to 174.

Leçons sur les maladies du larynx. Faites à la Faculté de médecine de Bordeaux (cours libre). Par le Dr. E. J. Moure, Professeur libre de laryngologie, otologie et rhinologie, etc. Recueillies et rédigées par le Dr. M. Natier, Ancien chef de clinique du Docteur E. J. Moure, et revues par l'auteur. Avec des figures en noir dans le texte. Paris: Octave Doin, 1890. Pp. iv–599.

Die Protozoen als Krankheitserreger. Von Dr. L. Pfeiffer, Geh. Med. Rath und Vorstand des Grossh. Sächs. Impfinstituts in Weimar. Mit 34 Abbildunden im Text und 1 Tafel. Jena: Gustav Fischer, 1890. Pp. iv–100.

Die Untersuchung der hinteren Larynxwand. Von Dr. Gustav Killian, Privatdocent für Laryngologie und Rhinologie in Freiburg i. Breisgau. Mit 40 Abbildungen in Texte. Jena: Gustav Fischer, 1890. Pp. 77.

Transactions of the Southern Surgical and Gynæcological Association. Volume II. Second Session, held at Nashville, Tenn., November 12, 13, and 14, 1889.

Transactions of the Medical Society of the State of New York, for the Year 1890.

A Digest of Current Orders and Decisions, with Extracts from Army Regulations relating to the Medical Corps of the U. S. Army. Compiled under Direction of the Surgeon-General by Charles R. Greenleaf, Major and Surgeon, U. S. A.

International Atlas of Rare Skin Diseases. Editors: Malcolm Morris, London; P. G. Unna, Hamburg; L. A. Duhring, Philadelphia; H. Leloir, Lille. I and II. Philadelphia: J. B. Lippincott Company, 1889.

The Operative Treatment of Hip Disease. By De Forrest Willard, M. D. [Reprinted from the *Medical News.*]

The Treatment of Local and General Peritonitis. By W. E. B. Davis, M. D., Birmingham, Ala.

Report of the Ladies' Health Protective Association of New York, 1888 and 1889.

Primary Cancer of the Gall-bladder and Bile-ducts. By J. H. Musser, M. D. [Reprinted from the *Transactions of the Association of American Physicians.*]

Case of Tubercular Pericarditis; Unusual Amount of Effusion; Accidental Paracentesis Pericardii. Notes of the Treatment of Peritonitis. By J. H. Musser, M. D.

The Prophylaxis of Tuberculosis. By Karl von Ruck, B. S., M. D. [Reprinted from the *Therapeutic Gazette.*]

A Study of Metastatic Carcinoma of the Stomach. Report of a Case of Primary Carcinoma of the Testicle; Secondary Involvement of the Vena Cava Inferior; Metastases in the Lungs, Stomach, and Falx Cerebri. By John S. Ely, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

Chips from a Surgeon's Workshop. Five Consecutive Cases of Gunshot Wounds of the Abdominal Viscera treated by Abdominal Section. Two Deaths, Three Recoveries. By A. C. Bernays, M. D., St. Louis. [Reprinted from the *St. Louis Medical and Surgical Journal.*]

Aus der gynäkologischen Abtheilung des St. Francis Hospitals in New York. Die Laparotomien des Jahres 1889. Von Dr. George M. Edebohls, New York. [Aus der New Yorker *Medicinischen Monatsschrift.*]

Sifilide congenita tardira. Nota clinica del dott. Umberto Dicci. [Estratto dalla *Rassegna di scienze mediche.*]

Nefrectomia transperitoneal. Por el Dr. Raimundo Menocal. [Publicado en la *Revista de Ciencias Médicas.*]

Ueber das mechanische Latenzstadium des Gesammtmuskels. Von Dr. Med. W. Cowl. [Separat-Abdruck aus den *Verhandlungen der physiologischen Gesellschaft zu Berlin.*]

Miscellany.

Coca and its Therapeutic Applications.—M. Angelo Mariani's monograph on this subject has already been mentioned in this journal. Dr. Henry Schweig speaks of the author's researches as having extended over a period of more than twenty-five years, not only in the preparation of laboratory products, but in matters pertaining to the cultivation of the plant with special reference to the higher development of its active principles.

ANSWERS TO CORRESPONDENTS.

No. 326.—If your diploma was not issued by a college situated in the State of New York, it will have to be certified to before you can register here.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, July 26, 1890.

Original Communications.

THE DOSAGE AND ADMINISTRATION OF CREASOTE IN PHTHISIS.*

By WILLIAM H. FLINT, M. D.,
ATTENDING PHYSICIAN AT THE PRESBYTERIAN HOSPITAL.

Medical opinion is at present almost unanimously fa-orable to the use of pure beech-wood creasote in phthisis, nd convincing proofs of the efficacy of this remedy have een furnished by many authors on both sides of the At-antic. Among the most valuable contributions of our own ountrymen to the earlier demonstrative literature of this ubject, the papers of Dr. Beverley Robinson deserve par-icular mention and are widely quoted. Our journals are, oreover, constantly heralding new and striking successes ttained by the use of creasote, so that it no longer seems ecessary to cite cases in proof of the value of this medica-ent.

In view, however, of the divergent opinions expressed y competent observers regarding the dosage and the ad-inistration of creasote, the writer hopes that the society ill consider as opportune a discussion regarding the quan-ity of the drug to be employed and the best methods of s exhibition.

With a view to the inauguration of such a discussion, he writer begs to present the recommendations of some of e authors whose articles have come to his notice, as well s the results of his own observation and study.

Bouchard and Gimbert (*Gazette hebdomadaire*, 1877, p. 486, 504, 522, and 620), to whom belongs the credit of scuing the creasote treatment of phthisis from the oblivion which it had been consigned after its discovery by Reich-nbach, in the early part of the nineteenth century, suggest-d six or seven drops as the average daily dose of creasote, ut recommended that this quantity be increased in the vent of its being easily tolerated. Their favorite formula as the following:

℞ Creasote.................... ♏xxxj;
Tincture of gentian........... ♏lxxij;
Alcohol...................... ʒ x;
Tokay or Malaga wine........ ℥ v.

ose, from ʒ j to ℥ ss.

Dr. Beverley Robinson (*Medical Record*, Sept. 2, 1878, . 223), who may be called the apostle of the creasote treat-ent in this country, at first used the creasote mixture of e U. S. Pharmacopœia in dessertspoonful doses. This ixture is composed of creasote and glacial acetic acid, each, xvj; spirit of juniper, fl ʒ ss.; syrup, fl ℥ j; distilled wa-r, fl ℥ xv, and each ounce contains one minim of creasote.

A few years later Dr. Robinson (*N. Y. Medical Journal*, ov. 14, 1886, p. 535) adopted the method of antiseptic in-lations in his treatment of phthisis, using, by preference, mixture composed of equal parts of creasote and of alco-l, or of creasote, alcohol, and chloroform.

In the *American Journal of the Medical Sciences*, January, 1889, Dr. Robinson published a comprehensive and masterly article on the whole subject of the use of creasote in phthisis, to the results of which later researches have certainly added but little. In the course of this article Dr. Robinson again described his method of using creasote inhalations, recommending the inhaler now generally known by his name and several solutions well adapted for use in this inhaler. The solutions employed by Dr. Robinson are three in number, and their composition is as follows:

First, one recommended by Dr. Brunton and modified by Dr. Robinson:

℞ Iodoform.................. gr. xxiv;
Creasote.................. ♏iv;
Oil of eucalyptus.......... ♏viij;
Chloroform............... ♏xlviij;
Alcohol, } ..... āā q. s. ad fl ℥ ss. M.
Ether, }

Second, the formula of Dr. Coghill (*Brit. Med. Jour.*, 1881, vol. i, p. 84):

℞ Tr. iodi ætherealis, } ... āā ʒ ij;
Acid. carbolici, }
Creasot.................... ʒ j;
Spts. vin. rect.......... ad ℥ j. M.

Third, Dr. Robinson's own prescription:

℞ Creasote................ ʒ j;
Alcohol............... ad ℥ ss. M.

The inhaler was worn by Dr. Robinson's patients at first for fifteen or twenty minutes every three hours, and from ten to twenty drops of the mixture were placed upon the sponge at least three times in twenty-four hours.

For internal administration Dr. Robinson employed the following formula, which he adapted from Jaccoud and which has, I think, come into pretty general use:

℞ Creasoti.................. ♏vj;
Glycerini................. ℥ j;
Spts. frumenti .... ℥ ij.
M. Sig.: As directed.

The dose of this preparation generally used was one teaspoonful, and this was given every three hours, diluted with two parts of water to prevent irritation of the throat and stomach. Dr. Robinson contended that creasote should be taken, at first at least, in small or moderate doses, continued a long time, and increased very gradually. His average daily dose was from three to six minims, and this quantity he administered, uninterruptedly, for many months.

Dr. Austin Flint (*N. Y. Medical Journal*, Dec. 8, 1888, p. 617) used doses of three or four drops thrice daily, and inhalations of the creasote, chloroform, and alcohol solution already described, at first for a few minutes, three times a day, and then for increasing periods even up to four or eight hours a day.

Professor Sommerbrodt, of Breslau (*Therapeut. Monatshefte*, July, 1889; *N. Y. Medical Journal*, Oct. 5, 1889, p. 373), strongly advocates the use of creasote in heroic doses, acting upon the assumption that enough creasote may be given to so charge the blood with the remedy as to antagonize the development of tubercle bacilli.

Professor Sommerbrodt bases his method upon the researches of Dr. P. Guttman, whose experiments showed that tubercle bacilli could hardly be cultivated in sterilized serum containing $\frac{1}{4000}$ volume of creasote, and that the culture could not be carried on if the solution were a little stronger than 1 in 4,000.

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* Read before the New York Clinical Society, May 23, 1890.

Professor Sommerbrodt has tested his method in hundreds of cases, using capsules each containing one minim of creasote. He usually begins the treatment with three capsules the first day, and adds one capsule on each succeeding day until the eighteenth day, after which the maximum quantity, from twenty to twenty-five minims *per diem*, is administered for many consecutive months.

Professor Sommerbrodt reports most gratifying results from this method and states that, in his experience, his success in any given case was in direct ratio with the amount of creasote taken. One of his patients took nearly nine ounces of creasote and thirty-five ounces of Peruvian balsam between September 1, 1888, and June, 1889, with very good results.

Dr. P. Bogdanovitch (*Meditzinskoe Obozrenoë; British Med. Journal*, March 10, 1888, p. 548) published the results of his experience in his own case of pulmonary and laryngeal phthisis. For two years he took doses of half a grain, four or five times daily, without effect. He then augmented the dose, commencing with four grains daily and increasing the quantity within two months to *forty-four grains* in twenty-four hours. The results were speedy amelioration, as regarded the cough and dyspnœa, diminution of sputum, and disappearance of fever and laryngeal spasm. The bacilli remained just as numerous as at the beginning of the treatment. Dr. Bogdanovitch infers from his experience that five grains should be taken four times a day in capsules, after food. This heroic Russian method may do well in the iron-bound realms of the Czar, but would hardly be adapted to the average invalid's stomach in these latitudes.

Even Dr. Bogdanovitch experienced epigastric discomfort after taking small doses on an empty stomach. This symptom did not present itself when even twelve grains were taken after meals. If, however, twelve grains were taken at a single dose, or twenty grains within an hour, Dr. Bogdanovitch suffered from giddiness, cardiac palpitation, weak pulse, asthenia, pallor, and anxiety. All of these toxic symptoms disappeared within half an hour or an hour, and did not return. The condition of the urine was not reported.

Dr. Lanisniée (*Union médicale*, quoted by *Brit. Med. Jour.*, 1888, i, p. 1360) claimed that nausea and vomiting from creasote might be avoided by the use of the following formula:

℞	Creasote..................	5 centigrammes;
	Balsam of Peru...........	7½ decigrammes;
	Norway pitch.............	7½ "

Sig. Make one capsule.

Four of these capsules are taken with the meals, morning and evening, and the dose gradually increased to twelve daily.

Dr. Rosenbusch (*Przeglad Lekarski*, Feb. 4 and 11, 1888, and *Wien. med. Presse*, June 10, 1889; see *Therapeutic Gazette*, May 15, 1888, p. 359, and London *Lancet*, 1888, i, p. 643) reported good results from pulmonary injections of creasote in phthisis. He injected eight minims of a three-per-cent. solution of creasote in almond-oil into each of two spots in the diseased lung at intervals of two or three days. The points selected for the injections were either the second intercostal space or the supraspinous fossæ. Dr. Rosenbusch alleged all the good results for this method obtained by other modes of administering creasote. The only unpleasant symptom following the injections was pleuritic pain, when the injections were too near the pleural surface. No hæmorrhages occurred after the injections, but the sputum of one patient who had already suffered from hæmoptysis was slightly colored for a short time.

Other observers have not been able to attain the good results alleged by Dr. Rosenbusch for intrapulmonary injections of creasote.

Dr. T. Stachiewicz (*Year-Book of Treatment*, 1890, p. 34) carefully employed Rosenbusch's method and found that cough and expectoration notably increased after each injection of creasote. Dr. Stachiewicz concludes that, if cavities have formed, creasote injections may cause rapid destruction of pulmonary tissue by engendering inflammation. Dr. Stachiewicz also believes that hæmoptysis is likely to follow intrapulmonary injections.

Dr. Mackey (*Brit. Med. Jour.*, 1888, No. ii, p. 765) used intrapulmonary injections of a three-per-cent. solution of creasote in olive-oil. The seventh injection, however, caused hæmoptysis and increased the inflammatory symptoms so that the treatment was abandoned.

Dr. J. Rosenthal (*Berlin. klin. Wochenschrift*, 1888, 32, pp. 640, 666) advocated the use of carbonic-acid water as a menstruum for creasote. This suggestion was based upon the result of many experiments conducted by Dr. Rosenthal regarding the effect of solutions of creasote in carbonated water upon cultures of thirty-two varieties of micro-organisms. Rosenthal found that the growth of the micro-organisms was almost or quite arrested by carbonic-acid water containing 1 part in 2,000 of creasote. Other experiments made by Rosenthal showed that creasote, even in weak solutions, will not only hinder the growth of the micro-organisms, but will actually kill the latter. Rosenthal's experiments also demonstrated that a sufficient quantity of creasoted water can be given hypodermically to a rabbit to make a dilution of one to four thousand in its blood without causing appreciable morbid symptoms. Creasote solutions of this strength were shown by Koch to greatly retard the growth of tubercle bacilli in various culture media. Thus, by inference, Dr. Rosenthal assumes, as did Sommerbrodt, that a sufficiently concentrated solution of creasote may be made in the blood to directly antagonize the growth of the bacilli tuberculosis.

Rosenthal recommended that the carbonated creasote-water be prepared of such strength that each litre should contain from 0·6 to 1·2 of creasote and 30 grammes of cognac. The doses of this solution are so arranged that 0·1 of creasote is taken on the first day, and the remedy gradually increased until the daily dose is 0·8.

Von Driver (*Berlin. klin. Wochenschrift*, 1888, No. 35

ee *New York Medical Journal*, June 1, 1889, p. 615) sed creasote mixed with alcohol and sherry wine, accordng to the formula of Fräntzel, which is as follows :

℞ Creasoti.................... ♏xv ;
Tr. gent.................... ♏vj ;
Spts. vin. rect................ fl ʒ vj ;
Vini xerici............q. s. ad fl ℥ iv.

Sig. ℥ ss. t. i. d., with water.

Dr. von Driver believed in the heroic method, and inreased his doses as rapidly as possible until the maximum vas reached. This maximum was 0·75 gramme (*i. e.*, 11¼ rs.).

Groh (*Wien. med. Blätter*, No. 27, 1889) administered reasote in wafers intimately mixed with powdered cacao.

Dr. James E. Newcomb (*Medical Record*, August 10, 889, p. 145) reported favorably concerning the effect of reasote in his service at the Roosevelt Out-patient Deartment. He administered the creasote by mouth only, nd used the following formula :

℞ Creasoti, } ....āā ʒ ij– ʒ iij ;
Tr. capsici, }
Mucilag. acac.............. ℥ ss. ;
Aquæ..................ad ℥ iv.

M. Sig. : ʒ j, well diluted with water, after meals.

Dr. Ruetimeyer (*Brit. Med. Jour.*, 1889, i, p. 102) uses reasote in emulsion with olive-oil, almond-oil, or cod-liver il, in which form it is fairly palatable and causes hardly ny indigestion.

Dr. Dor (*Revue de méd.*, February, 1890; *Am. Jour. of he Med. Sci.*, May, 1890, p. 521) advocates the use of intraracheal injections of sterilized olive-oil containing creasote n the proportion of one part of creasote to twenty of oil, ontinued for many months. Dr. Dor injects 31 minims of his mixture, containing 3·1 grains of creasote, twice daily, nd reports that he never observed untoward results—such s hæmoptysis, fever, or pleuritic pain—to follow the injecions. After the injections the patients are made to assume ositions adapted to facilitate the gravitation of the creasote o the diseased part of the lung. The fact of its penetraion is evidenced, according to Dor, by the production of ubcrepitant râles. Dr. Dor maintains that the digestive isturbances often resulting from the internal administration f creasote were entirely absent in his cases.

This observer's experiments with animals showed that he oil reached the alveoli and remained there for fifteen ays in some cases before undergoing complete absorption.

The writer's experience with creasote in phthisis emraces seventy-three cases, among which there have been xamples of all stages of the disease.

The cases were divided into three classes, according to he methods of treatment adopted—

1. Those in which creasote inhalations were alone emloyed.

2. Those in which creasote was administered both by nhalation and by the stomach or the rectum.

3. Those in which the drug was given only by the tomach or the rectum.

This subdivision of the material was made with a view o ascertaining which mode of administration yielded the best results, or whether a combination of both modes was most advantageous.

There are so many variables in a clinical problem of this sort that statistics upon a large scale are, of course, necessary to definitely settle the question. So far, however, as the limited experience of the writer goes, it tends to show that neither of the above-mentioned methods *invariably* furnishes the best results. The inhalation method was, naturally, most successful for patients whose gastro-intestinal tracts were diseased, while the other methods were more satisfactory, producing more immediate and even phenomenal results, in cases whose digestive organs were in a fairly healthy condition.

The solution used for inhalation was always that containing equal parts of creasote, alcohol, and chloroform. This combination was very acceptable to the patients, save in a few cases in which it caused nausea and gastric distress whenever employed. The inhalers used were Dr. Robinson's and that of the Brompton Hospital. In mild cases the inhalations were administered for fifteen minutes, every two or three hours; and in severe ones, every hour during the day-time and every three hours at night. From ten to fifteen drops of the solution were placed upon the sponge about every five hours during the day, and twice during the night. The writer employed several preparations for the administration of creasote by the mouth and the rectum. At first he relied upon the solution recommended by Jaccoud, and composed of creasote, ♏vj; glycerin, ℥ j; and whisky, ℥ ij. This was well borne by strong stomachs, but presented the disadvantage that the dose could not be greatly increased without the exhibition of an undesirably large amount of glycerin and whisky. The former of these medicaments in large quantities perhaps engendered gastric distress quite as much as the creasote, and produced too free peristole of the stomach. The use of whisky in the early stages seemed contra-indicated when there was little need of stimulants, and also exposed patients to the risk of contracting an undue fondness for alcohol, which might outlast their disease. For these reasons the writer early adopted the use of an emulsion composed of cod-liver oil, 40 parts, and mucilage of acacia, 60 parts—each drachm containing two minims of creasote. This was generally better tolerated than the glycerin and whisky, particularly when given after food. In suitable cases the emulsion was given every two hours, and the dose increased up to the point of toleration, which, in the majority of the cases, was about ten or twelve minims *per diem*.

In many instances, when the patients could be persuaded to temporarily adopt an exclusively milk diet, the creasote emulsion was administered in the milk, being thoroughly mixed with the latter by means of energetic shaking. The succussion may be well performed in an ordinary bottle or by means of a lemonade shaker, such as is habitually employed by bar-tenders in preparing various beverages. The writer succeeded in administering more creasote in this manner, without exciting gastric symptoms, than by any other method, and can heartily recommend it for cases requiring large doses of creasote, frequently repeated. In a few cases twenty-four minims of creasote were daily given in this way for several consecutive days before the growing gastric distress necessitated a diminution of the dose. The figurative thorn upon this therapeutic rose is the bad taste imparted to the milk by the creasote. Some patients do not, however, object to the flavor, and some get on very well by mixing the creasote with only a part of the milk to be taken, reserving the remainder of the milk for the final swallows. In this way the after-taste is greatly diminished, and it may be quite removed by any good mouth-wash.

Rectal injections of milk containing the creasote emulsion, and which the writer has not seen referred to in medical literature, have also proved very valuable in his experience. This channel for the introduction of creasote may be advantageously employed when the stomach or the palate rebels against the administration of the remedy *per os*. One or two drachms of the emulsion, containing, respectively, two and four minims of creasote, may be shaken up with four ounces of milk, and such an enema may be given every five or six hours. When the rectum becomes intolerant of this treatment, a small amount of laudanum may be added to the enema to obtund the sensibility of the bowel, and from two to four drachms of whisky may be added where stimulation is indicated.

Another mode of administration which promises much, but which awaits development, is by means of keratin-coated or other so-called enteric pills. The writer has been thus far disappointed in his efforts at securing pills which would not dissolve in the stomach. The solubility in the gastric juice of those keratin-coated pills which he has employed was proved by eructations of creasote and by the rapid development of gastric irritability. It is, however, quite reasonable to suppose that the pharmacist's art will eventually provide pills or capsules which will resist the action of the gastric juice and liberate the creasote in the intestinal canal, being dissolved by the pancreatic juice and the bile. This part of the digestive tract may thus be made to absorb the creasote when the stomach or the rectum is incapable of its appropriation.

The conclusions reached by the writer, as the result of his reading and of his own experience, are:

1. That intrapulmonary and intratracheal injections of creasote are of doubtful utility, and may be positively injurious.

2. That, for administration by mouth or rectum, solutions and emulsions of creasote are preferable in most cases to capsules, pills, or wafers.

3. That milk is an excellent vehicle for the administration of creasote in solution or in emulsion.

4. That each method of administering creasote used by the writer—viz., by inhalation, by mouth or rectum alone, and by both these channels simultaneously—is useful, and may each be particularly adapted to individual cases. In suitable cases the most rapid progress seems to be made when all these ports of entry are utilized.

5. That the best results for each individual attend the administration of the maximum quantity of creasote which this patient will bear.

6. That the average patient will not easily tolerate more than ten or fifteen minims of creasote *per diem* for any great length of time, and that many will only bear two or three drops *per diem* continuously administered.

7. That it is very important that the treatment be uniform and uninterrupted.

8. That, consequently, an effort should always be made, if intolerance of creasote is shown by any one mucous surface, to employ some other channel of introduction, in order that the continuity of the treatment be not interrupted.

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TENORRHAPHY.

By ELLSWORTH ELIOT, Jr., M. D.,
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Probably among minor operations few have received the attention that has been given to tenorrhaphy. As a result of this attention, one would naturally infer that the diagnosis and treatment, both operative and subsequent, had reached such a degree of perfection as to demand no further consideration.

But that this is not the actual truth is often brought to our notice by patients who present themselves for treatment of complete or partial loss of function of a member, where a several weeks'-old cicatrix over the course of an important tendon tells too clearly the history of its previous division, as well as the lack, at the same time, of a correct knowledge of the nature of the lesion on the part of the practitioner. But, even with a correct diagnosis, it is not at all infrequent to meet with patients who have submitted to operative treatment in whom the return of the function of the divided tendon can be said to have only partially taken place. Therefore it seems hardly superfluous, even at the risk of repetition, to state and emphasize such principles as should guide us in the diagnosis and treatment of these cases—all the more so, in fact, since frequently the question of the ability of the patients to obtain their livelihood is dependent upon the surgeon's skill in obtaining a good result.

In reaching a positive diagnosis in cases of divided tendon or tendons we are often assisted by considering the character of the weapon that inflicted the injury. From the firm and tough structure of these organs it is evident that blunt instruments or missiles, which produce contused or lacerated wounds of the soft parts, are usually incapable of severing a tendon. In fact, such injuries may tear away the softer tissues that surround a tendon without injuring this structure, or, what is perhaps more usual, may tear away a longitudinal slip from the tendon itself without dividing it.

On the other hand, wounds inflicted by glass or sharp cutting instruments, although apparently "superficial," should always lead to a careful examination on the part of the surgeon. Deficient movement of an injured member by the patient himself is usually a valuable indicator of loss of function of that member. Under certain circumstances it is the only necessary symptom to be elicited. But it is important to remember that, valuable as it is, it is still capable of misleading one, and that this is especially the case when in the hand, for example, considerable swelling prevents the patient from fully flexing his fingers. Here, even if the long flexor tendon of one of the fingers was divided, the patient would still be able to flex that finger by means of the sublimis digitorum until the large amount of general swelling checked simultaneously the flexion of all the fingers and before the long flexor tendons of those fingers, not the seat of injury, could complete their action in producing full flexion of the third phalanges into the palm of the hand. But, although this swelling prevents the patient from fully bending his normal fingers, yet by the examiner this obstacle may be overcome, with perhaps some pain to the patient, and by him the finger may be fully flexed. With the finger once in this position the patient experiences no difficulty in retaining it there, provided his long flexor tendon is uninjured. If this, however, has been previously divided, the finger, after being forced by the examiner into the fully flexed position, returns with the removal of the examiner's finger into the semi-flexed position, and at the same time the third phalanx becomes fully extended upon the second. But, when more than one tendon is divided, in situations where a considerable number are closely aggregated together, the exact diagnosis becomes more difficult, and usually requires an exploratory incision.

Before resorting to this step, however, we may try another method of diagnosis, especially applicable to those cases in which a number of tendons have been divided—namely, that of electiicity. By means of this agent, either with the constant or faradaic current, one pole being placed over some indifferent part of the body, the other over the known point of entrance of the nerve to the muscle, the usual normal reaction will ensue on the passage of the current through the muscle, should the tendon be intact, but would naturally be absent were that structure divided. But this method is open to the objection that a battery is not always at hand, as well as the fact that the exact relations of the so-called "points of nerve-stimulation" to the surface of the body vary in different people, and can therefore not be fully relied upon in making an accurate diagnosis.

We come now to the consideration of the most important point of the subject—namely, the treatment of a divided tendon. Tenorrhaphy, like all operations, is one in which the strictest antiseptic precautions should be observed. Billroth says that, in his experience, before the days of antisepsis it was an operation in which septicæmia was not an infrequent sequela. Such an unfavorable termination to-day could only be the result of gross neglect of antiseptic rules.

If possible, the operation should be done with cocaine, because the pain after the primary incision is very slight, and because the patient himself can usually be of assistance in making certain movements of the injured part, and thereby enable the surgeon to detect more readily the tendon for which he is searching. Provided but one tendon is divided, the line of incision should be directly parallel to the line of the tendon, its center being over the point of its division, and the dissection carried to such a point until its sheath is exposed. If, however, several tendons are divided, for example, by a transverse wound in the neighborhood of the wrist, an incision should be made at right angles to the wound, and the crucial flaps so formed should be reflected from the deep fascia, or, in other situations, from that fascia or structure that forms the sheath of the divided tendons, and never through it, for this sheath contains a large number of the vessels that nourish the tendon, and these would be materially damaged by any manipulation resulting in the separation of the sheath from its contents. Also, this same structure sometimes serves the double purpose of sheath and pulley, and in the latter capacity binds the tendon firmly in place and gives it increased leverage in the performance of its function.

Thus the aponeurotic canal which contains the peronæus longus behind the external malleolus not only binds the tendon firmly to the bone, but also helps to serve as a pulley, for here the tendon changes its course and no longer lies in the same vertical line with the fleshy portion of the muscle. Consequently, wherever possible, remove all overlying structures as far as the sheath, through which the divided ends of one or more tendons are easily recognized. The distal end of the tendon is but very slightly retracted; the proximal end, from its being connected to the contracting portion of the muscle, may have retracted a distance of one to even four or five inches, the average being one to two inches. If the distance exceeds this, it will be impossible to draw the divided ends together without opening the sheath of the tendon; but this should always be avoided, if possible, by inserting a very narrow-toothed thumb-forceps within the sheath at the point of division of the tendon, and, after seizing the proximal end, gently drawing it down to the site of suture, where it should be temporarily held by a ligature until the distal end is similarly secured.

Such an extensive incision is also of advantage in making a correct diagnosis. It is not always easy without this assistance, in places where tendons are numerous, to match their divided ends; but if the incision is sufficiently extended toward the origin of the muscle to discover the identity of the proximal stump, that of the distal end may readily be detected by traction, thereby discovering the action of the muscle to which it belongs, and consequently the muscle itself.

It is scarcely necessary to state the great importance of a correct anatomical knowledge of the relation of groups of tendons to one another and to the surrounding parts in enabling one to carry out this step of the operation satisfactorily.

It now remains to consider the different substances by which the tendons which have thus been found divided and the ends of which have been approximated may be held in contact until complete union between them has taken place. Silk, silk-worm gut, and catgut have all been used for this purpose, as well as other material. The first-mentioned substance, however, although known to have become encapsulated in the body, is open to the objection that its subsequent removal from the parts it is made to include takes place by a process of ulceration, and it is reasonable to infer that this cutting through a portion of the tendon must weaken it, although the divided ends may in the mean time have become healed.

Silk-worm gut, some observers say, has the durability of silk and the capacity for being absorbed that catgut possesses; but that this is not always the case has been the experience of the writer, who has removed stitches of this material from an abdominal wall, after being in place six weeks, when the buried portions were as strong as at the time of their insertion. Catgut, from its undoubted after-absorption, leaves no breach, and therefore does not ultimately weaken the tendon, and also, in virtue of this same characteristic, interferes to the slightest degree with the subsequent healing of the wound by primary intention—a factor upon which ultimate success is greatly dependent. Its durability also is sufficiently lasting for it to accomplish its intended purpose, and, when it eventually softens, the divided ends of a tendon are bound firmly together by the process of union.

With the incisions all ready for suture, one point alone remains to be mentioned. As has already been said, the ultimate success of the operation depends in a measure on securing primary union. In order to render this more certain, the catgut sutures between the tendons may be cut sufficiently long to protrude between the edges of the sutured wound. In this way they serve the purpose of small drains, which carry away all discharge from the neighborhood of the sutured tendons—a region where tension is the highest and, consequently, the risk of suppuration the greatest. By this means the primary dressing may be undisturbed for at least ten days, when, on its removal, all traces of these small drains will have disappeared and, in a good result, primary union will have taken place.

In the application of the dressing it is of paramount importance to fix the limb securely in such a position that the divided tendons will be relaxed and completely at rest. If one or more flexors have been involved, the joint or joints over which the tendons play should be superflexed, and a splint should hold it securely in this position. If the extensors have been involved, the limb should be immobilized, superextended. If two antagonistic groups of muscles have been divided, the limb should be immobilized in that position which represents the resultant action of both groups of tendons.

In the after-treatment the question arises, How soon may the patient begin to use the affected member? a question upon which all are not agreed. In its consideration, however, it is essential to remember that, in the experience of some, tendons which have been sutured have suddenly and without apparent cause ruptured at the point of suture and retracted after an interval of from two to five weeks from the operation. That this accident may occur should tend to make one conservative in the after-treatment of these cases. Too early motion of any kind may be accompanied by this complication. Its delay, on the other hand, does not at all imply loss of function of the member; for it is an every-day matter to immobilize joints for six weeks, or even longer, for fracture or disease, with subsequent full return of function in the part so treated. It simply means an inconvenience to the patient, which had, however, much better be endured than the patient to be troubled during the remainder of his life by a weakness or even a crippling of one of the important parts of the body.

The following case is subjoined to illustrate the method of treatment under discussion, as well as the result obtained thereby:

T. R., nineteen months ago, was admitted into the New York Hospital, suffering from an incised wound just above the left wrist, the result of an explosion of a glass siphon bottle. Examination revealed division of all the tendons on the anterior aspect of the wrist, except those of the flexor profundus digitorum, two of which, however, were nicked; the ulnar artery was divided; the ulnar and median nerves, with the radial artery, were found intact.

Cocaine was injected, and an incision was made at right angles to the incised wound, from its center upward, two inches toward the elbow joint, and the integument and superficial fascia alone reflected, leaving the deep fascia exposed, through which the glistening tendons could be seen. Each one of these was in turn drawn down with a thumb-forceps inserted in the sheath of the tendon to that point at which this structure had previously been divided, and there sutured to its distal portion with catgut, each being joined by one central and two lateral sutures, drawn sufficiently tight to approximate, but not to compress, the ends of the tendon. These sutures were then left hanging from the radial extremity of the wound, the edges of which were brought together by interrupted catgut stitches. An iodoform-bichloride dressing was applied, and the wrist immobilized in the flexed and adducted position. No reaction followed the operation. The dressing was removed in ten days. There was primary union throughout. On the fourteenth day slight passive motion was performed. On the twenty-first day active motion was allowed, and up to the present day the functions of wrist and fingers equal those of the uninjured side.

OBSERVATIONS ON RHEUMATISM, ESPECIALLY AS INVOLVING THE TONSILS.*

By WILLIAM HENRY THAYER, M. D.

Within a very few years different observers have noted the occurrence of rheumatic inflammation in tissues and organs not previously recognized as liable to its invasion.

If we examine all the authorities earlier than 1850, we shall find that acute rheumatism is supposed to affect only the fibrous tissues about the articulations, the voluntary muscles, and the heart, especially its lining and investing membranes.

A little later, some few have recognized its implication of the lungs as a rheumatic bronchitis or pneumonia, its character being revealed by being preceded or followed by articular rheumatism, and yielding to remedies suitable to that disease. Thus Fuller (1852) says that during his service in St. George's Hospital some pulmonary inflammation (bronchitis, pneumonia, or pleurisy) was observed in one in every eighteen cases of acute rheumatism, uncomplicated with recent cardiac mischief. Trousseau in his *Clinical Medicine* says: "There is rheumatic pneumonia," and nowhere alludes to inflammation of the tonsils. He says, however (vol. i, p. 331): "There is another kind of painful sore throat—the rheumatic sore throat," which he describes as general redness of the pharynx with œdematous uvula, disappearing entirely in a day or two, with metastasis to the articulations. Flint (1879) says: "Bronchitis, pleurisy, and pneumonia are rarely associated with rheumatism." In his *Diseases of the Pharynx* he makes no allusion to any rheumatic inflammation. Garrod (1880) describes rheumatic inflammation of the heart, pleura, and peritonæum, but not of the throat. Watson (1840) and Bennett (1860) make no mention of any pulmonary complication of rheumatism.

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The relation of amygdalitis to rheumatism in any case has never been noticed until within a very recent period; no text-book on practice twenty years old has any mention of it. Senator, in von Ziemssen's *Cyclopædia* (1877), says: "Inflammation of various mucous surfaces is by no means unusual. Foremost among these is bronchitis, then pharyngitis, noticed by Lebert and Meyer." Rheumatic inflammation of the tonsils, such as I shall presently describe as occurring in a number of cases under my observation in the winter of 1888–'89, is either a new manifestation or—which is hard to believe—has entirely escaped notice hitherto. The only experience that has been published is that of Dr. C. W. Haig-Brown, who, in the *British Medical Journal* for September 14, 1889, has a valuable paper entitled Follicular Tonsillitis and its Relations to Rheumatism, in which he relates the frequency of amygdalitis and of rheumatism in a public institution, due, as he thought, to sewer exhalations. Improvement of the sewerage reduced the cases of amygdalitis from twenty-one per cent. of all the sick to five per cent., and rheumatism from four to one per cent. He gives a considerable experience of the sequence of one disease to the other, or their concurrence. He says: "Having so far established a causative and clinical relationship between rheumatism and amygdalitis, we are led to one of certain conclusions: That rheumatism is a general disease, which as frequently finds expression in the throat as in the fibrous and serous membranes; or that the inflamed tonsil is the receptacle for the rheumatic poison, and the medium for its conduction to the general circulation; or, finally, that specific germs find their way into the body under circumstances favorable to their entry, and then evidence their presence in inflammation of the tonsils and the fibrous and fibro-serous membranes."

Garrod says (1880): "The pathology of articular rheumatism must be allowed to be in a very unsettled state, and further observations and experiments are required before we can arrive at any satisfactory conclusion with regard to it. . . . The name implies that the disease has been considered to be dependent upon some altered condition of the blood." This altered condition was believed to be the presence of lactic acid in the blood, the result of imperfect digestion—a belief that originated with Prout. "But," says Garrod, "no abnormal principle has yet been found in the blood; lactic acid has been assumed to exist in it, but no proof has been given of its presence."

The adoption of Prout's view led to the treatment with alkalies, which was eminently successful and considerably shortened the attacks; and it is noticeable that under this treatment the urine after a few days became alkaline, and simultaneously with this change in the urine convalescence began. Acidity somewhere is apparently an element in the pathology of rheumatism, although no acid is found in the blood.

And, says Fuller (1852): "When the rheumatic poison is present in the system, any disturbing circumstance, even of temporary duration, such as over-fatigue, anxiety, grief, or anger, by rendering the system more susceptible of its influence, may prove the accidental or exciting cause of the disease; and exposure to cold or to atmospheric vicissitudes is almost certain to induce an attack. . . . Thus it appears that cold and other external agencies are only predisposing or exciting causes of rheumatism, and that the primary, proximate, or essential cause of the disease is the presence of a morbid matter in the blood, generated in the system as the product of a peculiar malassimilation—of vicious metaphoric action." But what this morbid product is, is thus far only matter of conjecture; neither chemist nor microscopist has been able to discover it.

In the winter of 1888–'89 I saw six cases of rheumatic amygdalitis, some of which are offered in detail:

Case I.—Wilber T., aged twelve, previously well, had an attack of follicular amygdalitis in December, 1888, and on January 14, 1889. On the 24th of January a third attack, with subacute rheumatism, which lasted only four days.

February 10th.—Cough, without physical signs. Pain and tenderness in right groin and along right iliacus internus muscle, and in front of left ear; and on the 12th in the left ankle. Temperature, 100.5° F.; pulse, 102. The dry cough continued till February 17th, the pains having nearly abated, but on the 22d there was still some stiffness of left wrist.

He was then out and going to school until May 23d, when he had an acute amygdalitis, the tonsils being so much swollen as nearly to close the isthmus faucium, with fever. He got an active cathartic, and the next day the tonsils were nearly normal and fever gone. He continued well after this until February 3, 1890, when he had an acute inflammation of the tonsils, with rheumatism, from all of which he recovered in six days.

February 16, 1890.—In bed with subacute rheumatism in toes, ankles, and right hip, which disappeared in two days.

March 12th.—Subacute rheumatism since 9th, now chiefly in left wrist. Slight icterus. Was given dilute nitrohydrochloric acid and strychnine.

14th.—Some pain in cardiac region. Pulse 60, somewhat unequal, with a slight thrill in radial artery.

April 12th.—No pain and no thrill in pulse since March 16th. Out daily and feels well.

Was treated with salicylate of sodium during the several attacks, followed by tincture of chloride of iron and dilute phosphoric acid after convalescence. But the latest attack was treated by nitrohydrochloric acid and strychnine, in addition to the salicylate.

Thus in five consecutive months he had five attacks, and, after nine months' freedom from illness, three more attacks, in the course of two months, of amygdalitis or rheumatism, or both combined. In the intervals he was out and generally at school. Since the latest attack in March he has been well; has been on a plainer diet than usual, with care to avoid anything likely to produce indigestion.

Case II.—A. W. A., commercial traveler, aged forty, married. Has had an attack of alcoholism about every two years; one in October and November, 1888, for which he had been under treatment. Then went to Indiana, whence he returned December 4th with acute rheumatism of arms and neck, amygdalitis and gonorrhœa, dating from December 1st.

December 5th.—In bed. Pulse, 84. Tongue thickly coated. Redness and swelling of tonsils and pharynx, without exudation. Deglutition painful. Neck and shoulders painful and immovable.

7th.—Right knee invaded; neck same. Tonsils pale and less swollen.

In a day or two began to have headache, at first every other afternoon, with fever and delirium. The pain was in the right frontal region. By January 1, 1889, it continued daily, and there was spasm of the left arm and leg when he attempted to rise. The fever recurred every afternoon, and the pain was then most severe. His morning temperature was normal. His knee continued inflamed, but there was no rheumatism elsewhere. The record of January 23d is: "10 A. M., daily headache, generally in the afternoon, with much fever, followed by sweating. Spasm of left side once every day when attempting to sit up, but less severe than it has been. Temperature, 98·4°."

There was gradual improvement from this time until February 1st, when, after the excitment attending an interview about business, he had headache and delirium all day, and in the evening was violent and noisy, until quieted by a hypodermic injection of morphine and atropine. Next morning his pulse was 68; temperature, 98°. The sulphate of quinine, which he had taken since January 23d, was increased January 30th to twenty grains every morning, and ten grains, if fever, every evening. He had no fever or headache after February 2d, and steadily gained strength and flesh. His lame knee was the only remnant of rheumatism, which was gradually relieved under the application of compound tincture of iodine. The quinine was steadily reduced, so that on the 8th of February he was taking six grains a day. On the 9th he was dressed, and began to go to business March 6th. The gonorrhœa never received attention and disappeared in a few days.

The treatment was first with salicylate of sodium, for which acetate of potash was substituted December 9th, and sulphate of morphine and atropine given at night. Quinine was begun December 24th—six grains daily.

January 1st.—Iodide of potassium was given in place of the acetate, and continued till January 23d, when it was omitted, and quinine increased to eighteen grains daily, and bromide of potassium was given with every dose.

30th.—The quinine was increased to thirty grains a day, but reduced after February 2d on the disappearance of the fever.

Case III.—F. B., a girl, seventeen years old, who, March 23, 1889, had an acute catarrh, with cough.

March 27th.—Follicular amygdalitis.

April 5th.—Cough nearly gone. Large swelling, with tenderness of left submaxillary gland, which subsided in a few days.

23d.—Amygdalitis. Rheumatism in shoulders and insteps. Got salicylate of sodium.

28th.—Rheumatism has gone from joint to joint, with little swelling. Now in left wrist only. It soon entirely disappeared.

Case IV.—Miss E. B., aged thirty.

February 13, 1889.—Painful deglutition last two days. Moderate follicular amygdalitis.

14th.—Pain in left arm and in one spot in abdomen.

26th.—Catarrhal laryngitis for two days; still has pain in neck, left chest, and leg.

March 1st.—Cough less. Pain in neck and right side of head.

4th.—Hoarseness and cough much less. Never any expectoration. Pulse, 66; small. No impulse of heart felt. Rhythm normal, except that the first sound is duplicated. Pain at times under right knee; none elsewhere.

6th.—Pain in both ankles and right elbow. Got out about March 12th, and lameness of joints gradually disappeared.

Case V. *June 3, 1889.*—Grace W., aged sixteen. In bed with acute articular rheumatism, involving now left knee and ankle and lumbar region. Has had this for several days, following quinsy with purulent discharge. Reports that she had quinsy in 1886 and 1888, the second attack being followed by articular rheumatism, continuing nine weeks.

5th.—Right hand swollen and very painful; no rheumatism elsewhere, except at times pain in the left chest, with dyspnœa. Pulse regular. Impulse of heart normal.

7th.—After visit on 5th, the left hand became inflamed. Yesterday both hands were well. Last night and now, some pain in chest, due to indigestion. Relieved by a mustard emetic, and had no return of rheumatism.

Case VI.—Mrs. C., aged thirty.

February 3, 1889.—Follicular amygdalitis, with subacute rheumatism.

Case VII is of especial interest, as an instance of rheumatism involving a derangement of the lymphatics. E. K., a generally healthy boy, twelve years of age, began late in November, 1889, to have occasional pain in the left side of the abdomen, over a limited region, without fever or other symptom. Then headache for several days. But by December 4th his pains were gone and he went to school.

December 12th.—Pain in the right side of abdomen between the crest of the ilium and the ribs when he moves, and somewhat aggravated by pressure. None on the left side, none in head, some pain in left tonsil. Is generally well.

16th.—Slight pain on both sides of abdomen. The left submaxillary lymphatic gland has been swollen and tender for the last two days.

He had slight fever December 21st and 22d. Temperature, 100·8°. From that time through January he had daily moderate headache from rising until noon, and every day slight pain in abdomen, but he was not far from well in general, did not lose flesh, and went to school daily.

January 25th.—Pulse, 84, regular. Temperature, 98·8° Slight pain on both sides of abdomen and lower right chest without tenderness. Bowels moving daily. Swelling of lymphatic submaxillary gland nearly gone. From this time he wa taken out of school, but was out of doors daily. He continue to have slight pains a part of every day—sometimes on one side sometimes on the other of abdomen and chest; but by th middle of March they were much less frequent. He had a goo appetite and slept well.

March 21st.—Yesterday began to have some sore throat, bu so slight that he did not speak of it. Was feverish and restles all night. This morning great swelling of the left (salivary submaxillary and sublingual glands and surrounding tissue above and below lower jaw, so that he can only separate jaw half an inch. Face flushed. Swallowing painful. Pulse, 120.

5 P. M.—Opened mouth with difficulty widely enough t show swelling of entire soft palate and tongue; not very red.

22d.—Raises some mucus, streaked with blood. Pulse, 114 less full.

5 P. M.—Pulse, 100. Temperature in axilla, 100·8°. Som headache.

He improved rapidly, but on March 30th was still some what restricted in opening his mouth, by the relics of the cell litis around the muscles of the jaw. He had no abdominal pain during this attack, and has had non eanywhere since his recovery, eight weeks before the date of the present report. About the first of May he had an indigestion, entirely relieved by a mustard emetic.

Seen May 7th. Feels very well. Left lymphatic submaxillary gland still visible and palpable, but not tender.

His treatment was first with a cathartic, then salol for a fortnight. Then iron, quinine, and phosphoric acid. The attack of cellulitis was treated with a cathartic dose of calomel, aconite during the continuance of the fever, with a mouth-wash of carbolic-acid solution, and soap liniment and aconite liniment to the cheek, with whisky after the first day. And when convalescence was fairly established he was put upon dilute nitrohydrochloric acid after meals, which was continued four weeks.

May 22d.—Two months from the attack of cellulitis. During this interval he has been entirely free from pain or other symptom, except the attack of indigestion mentioned at the beginning of the month. To-day there is slight swelling and tenderness of the left parotid gland, with some pain in chewing. Throat normal. No pain in swallowing. Tongue clean. No fever.

Directed decolorized tincture of iodine to the surface three times a day, and an aloetic laxative.

23d.—Swelling less; hardly any tenderness. No pain in chewing. Reports slight pain on right side in swallowing. Tonsils nearly normal size. Tongue clean. Temperature, 98·8°. Pulse has a slight thrill; impulse of heart strong, regular. Feels well. Goes out.

Solution of carbolic acid and glycerin for gargle.

25th.—No pain in swallowing. Parotid swelling has nearly disappeared, but there is a slight swelling and tenderness of integuments around zygomatic arch.

Resume dilute nitrohydrochloric acid.

There has been through this case evidence of the endocardium sharing in the rheumatic affection, indicated by a somewhat rasping systolic sound and a thrill in the radial pulse at the time of the acute attacks. He had never previously to this illness had any cardiac affection.

Some of the cases just related may be a desirable contribution to the study of the physiology of the tonsils which has enlisted the attention of various physicians within the last few years. Without venturing to express any opinion upon the subject, I offer them as possibly available items of evidence when the physiological inquiry is in progress. It was begun, I believe, by Dr. R. Hingston Fox, and has been pursued by Dr. S. Spicer and several others, but never experimentally. Dr. Fox says of the functions of the tonsils in health (*Lancet*, 1888): "These organs consist of a mass of closed sacs or nodules, identical in structure with those of the solitary and Peyer's glands, and, indeed, of the ordinary lymphatic glands of the body. Some small mucous glands open into the crypts on the surface, but these are quite insignificant. . . . Their functions must be of the absorbent kind. . . . In health, food matter, perhaps a ferment, would be absorbed from the saliva, and stimulate the tonsils to healthy activity. In disease a poison, perhaps also a ferment, is absorbed from the saliva and overstimulates the tonsil; there is overactivity, multiplication of ill-formed cells, and other phenomena of inflammation."

Dr. Spicer (*Lancet*, 1888), quoting Dr. Fox, says the tonsils are absorbents of the excess of buccal secretions and liquids from the food, and form part of the blood-manufacturing system—"nurseries for young leucocytes, planted by the waterside, and drawing their sustenance from the nutrient stream. . . . The anatomical facts on which these views are based are the following: The tonsils are like sponges in texture, consistence, and structure, being riddled with lacunæ or crypts. In the intervals of deglutition these spongy organs lie in the glosso-epiglottic fossæ, soaking in the buccal secretions, which fill up all their pores. Further, the tonsils are constructed on the type of a mucous membrane, corrugated so as to expose a large surface, and on these corrugations are thickly studded lymph follicles, as well as in these organs a very rich plexus of lymphatic vessels, which must have some function; and what more probable than the relation suggested, of which we have so much confirmatory evidence. Also these follicle aggregations are situated at places just below the output of the buccal secretions, and in the course which these must take."

It will be observed that the views just quoted of the physiology of the tonsils are purely theoretical. They are plausible theories, but careful experiments which have been made lately do not confirm them. Dr. Eugene Hodenpyl, of Brooklyn, has been devoting much time and care to experiments upon living animals and microscopic examination of the faucial tonsils, with results not yet published, but which he has kindly permitted me to use. Some of his conclusions from an exhaustive study of the tonsils are as follows: "None of the theories thus far advanced to explain the functions of the tonsils are conclusive. The tonsils are not absorbing organs. They neither absorb fluids nor solid particles from the mouth, under ordinary conditions, nor do they take up foreign materials from the tissues in their immediate neighborhood."

The question as to the office of the tonsils in health, and what relation they bear to the general physical organization in the diseases in which they suffer, may be considered to be still open for investigation and discussion.

Antiseptic Solutions for Midwives.—"The Académie de médecine, of Paris, having recommended that midwives should be advised to employ a solution of bichloride of mercury in all obstetric cases, and that to avoid accidents it should be colored, a committee, including MM. Brouardel and Tarnier, and of which Dr. Baden is the reporter, recommends that the packets of disinfectant should be made up according to the following formula: 'Corrosive sublimate, 25 centigrammes; tartaric acid, 1 gramme; alcoholic solution of dry carmin of indigo (5 per cent.), 1 drop; reduce to an impalpable powder.' This quantity suffices for a quart of water."—*British Medical Journal.*

Death after the Inhalation of Bromide of Ethyl.—"A somewhat important case is now before the Berlin courts, in which a dentist is charged with having caused the death of a patient by means of an anæsthetic. The patient was a lady, and the dentist intrusted his pupil, whose age was under seventeen, with the administration of bromide of ethyl. Of this about an ounce was administered, together with four or five drops of chloroform. The patient is stated to have recovered completely from the effects of the anæsthetic, and to have felt quite well during the remainder of the day. The next day, however, she died, and a commission of medical experts has been directed to report upon the matter."—*Lancet.*

SOME POINTS IN THE DIAGNOSIS OF CERTAIN SIMULATED MENTAL AND NERVOUS DISEASES.*

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THE symptoms exhibited by a shrewd malingerer or a clever hysterical patient may so closely simulate organic disease of the nervous system that the best diagnostician will at times hesitate in some cases before giving an opinion. In some instances persons suffering from actual disease of the nervous system may feign, for reasons best known to themselves, a different trouble, or the hysterical may simulate a certain organic nervous affection and at the same time be suffering from some other organic disease; and, on the other hand, we not infrequently find an array of so-called hysterical phenomena in patients who are afflicted with some serious organic brain lesions. The hysterical should not be confounded with the malingerer, but it is rarely we see a case of hysteria without some elements of malingering. The causes for the latter are different from those that result in hysteria.

Malingering.—In civil life the causes for malingering are found among the mercenary, who feign injury for the hope of gaining remuneration, from a corporation most commonly; among the criminal class, who hope to escape their deserved punishment; and among the tramp class, who are trying to "dead-beat" their way, in order to gain sustenance in hospitals, or to eke out a miserable existence by imposing upon the charitably inclined. Among the criminals and tramps epilepsy and insanity, according to the writer's experience, are the most common affections of the nervous system feigned; but among the mercenary feigners organic diseases of the spinal cord, and sometimes of the brain, are more or less imperfectly simulated.

The object of this paper is not to go into a lengthy discussion on the points in the differential diagnosis between real and feigned disease, but to call the attention of the members of the society to the subject of the paper in the hope of eliciting discussion and the narration of similar cases. I will illustrate the tramp, criminal, and mercenary malingerers by the following:

Tramp Class. CASE I. *Feigned Epilepsy.*—A boy, eighteen years old, gave a history of convulsions dating over a period of three or four years. He professed to be a telegraph operator. He was found on the streets of Denver in a convulsion, and taken to a police station in an apparently unconscious condition. He was taken to the County Hospital the next day. He was having, on an average, two or three convulsions daily, but none of the attacks since his admission into the hospital had been witnessed by a physician. He was given large doses of sodium bromide, but his attacks continued and seemed to increase in frequency. This fact was reported to me and at once aroused my suspicion of their genuineness. On further inquiry, I found he did not bite his tongue, and that the attacks usually only occurred in the presence of certain persons whose sympathies he had enlisted in his favor. On getting a detailed history from him of his attacks, I found his mental condition at the time of their occurrence and the seizures themselves did not correspond with the phenomena of epilepsy. I requested Dr. Baker, the resident physician, to have the nurses or attendants notify him of the attacks, and for him to study them. At my next visit the doctor reported that he had seen an attack in which the patient assumed grotesque positions, and that the eyes turned upward when he raised the lids to examine the pupils. I immediately had his bromide discontinued, and gave him, instead, large doses of milk of asafœtida by the mouth. He protested that he had no control over his seizures. Not long after this I witnessed one of his attacks. He frothed at the mouth, threw his limbs in every conceivable direction, and assumed an opisthotonic position. At this stage I made firm pressure over each supra-orbital nerve with the ball of each of my thumbs, and, as the pressure increased, it caused him so much pain that he struggled to free himself from my grasp, and caught hold of my hands and pulled them away from his face. On my again renewing the pressure, and this time with redoubled energy, he jumped up, and the spasm (?) was over. From this time he took the precaution to have no more convulsions when a physician was around. Only a few attacks occurred during the remaining weeks of his stay in the hospital, and these were always in the presence of persons whose sympathy he had enlisted in his favor. A few days after he was dismissed from the hospital he was again found by the police lying on the street in an apparently unconscious condition. He was returned to us for treatment. This time, from the first, he was treated as "a suspect," and denied many privileges of the hospital which the other patients enjoyed. No bromide was given him. He had a few attacks at chosen intervals, but these always occurred in the presence of certain persons, and away from the presence of the attending physician. After remaining at the hospital for a few days, he suddenly left to escape arrest for theft.

CASE II.—An inmate of the hospital for one or two years about forty years old, says that he has been subject to epilepti convulsions for three or four years, the attacks dating from th time when his left knee, which is now ankylosed, first becam affected. The patient is addicted to drunkenness, is disagreeable, quarrelsome, repulsive, and believed to be a masturbator I first began to study his case in November, 1889. At that tim he was taking large doses of potassium bromide, and was reported to be having one or two attacks during the day, and a times as many as three during the night. The night in November immediately preceding my seeing him he had had severa seizures, and had kept the patients in his ward awake most o the time. Two or three persons had been engaged in holdin him. I saw him about 4 P. M. He was then in an attack, an the nurse stated that he had had them almost continuously fo hours. His face was flushed, and his movements were an admirable imitation of an epileptic attack. I had never suspecte the genuineness of his malady, and now supposed he was in condition of status epilepticus. On inquiry, however, I learne that he would sometimes throw himself from the bed in a attack and thrash himself around the room at a furious rate unless restrained. On raising the eyelids the eyes turned upwar and the pupils reacted to light. The pulse was not much acce erated above the normal. I immediately made firm pressu over each supra-orbital nerve; the convulsive movements sto ped, and the patient expressed his surprise by a silly laugh. I then admitted that he had been feigning "fits," but contend that he was subject to regular epileptic paroxysms. I had th bromide discontinued, and no convulsions occurred for sever ays. In a short time the nurse reported that he was again ccasionally having a convulsion, but I did not have the good ortune to witness any more attacks, and Dr. Baker, the resi- ent physician, said he had not seen any of them. He was ur- ent for medicine for his epilepsy. I ordered twenty grains of odium chloride to be given him three times daily. As the edicine tasted salty, but different from his usual bromide ixture, he thought it was composed of potassium bromide and odide, and again his paroxysms ceased, and have recurred only comparatively few times since. At the present writing he has ot had a convulsion for nearly ten weeks. I have a suspicion hat this man may have true epilepsy, with a large element of pure cussedness." On one occasion, Dr. Baker informed me, he cted strangely in a dazed kind of manner, and afterward seemed o have no recollection of what he had done during this time.

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* Read before the Colorado State Medical Society at its annual meeting.

Criminal Class. Case I.—In the spring of last year a man y the name of T., whose paramour, with whom he had lived or ten years, claiming her as his wife, left him and became ntimate with a man by the name of K. T. threatened o kill K. and the so-called Mrs. T., and purchased ten rains of strychnine at a drug-store in the name of K. T. oon left Denver and went to Omaha. A few weeks later T. rrived in Denver about four o'clock, P. M., and secreted himelf until dark, when he went to the rear of the house in hich K. and Mrs. T. were staying. He there met K. and atally shot him. He remained in the city twenty-four hours nd escaped to Kansas City. He was arrested and brought ack to Denver. At the trial, at which he was convicted of urder in the first degree and sentenced to be hanged, he gave e the details of the killing, the causes that led to it, and many f the particulars quite connectedly. He is a man below the verage intelligence, but cunning, and shows an infatuation for is unworthy paramour. There certainly was no evidence of nsanity, and I so testified. A short time after T. was removed o the State Penitentiary at Cañon City he was alleged to be nsane. He was brought to Denver early in the fall of 1889—his time in order to have the question of his insanity tested. Ie then professed to have forgotten almost everything; he ad never heard of a man by the name of K.; never heard of place called Denver; never knew that he had been tried for illing any one; did not know where he had been staying. He ave expressions to delusions of depression and expansion at ne and the same time. He at times very feebly and imperfect- y imitated the paretic dement, but usually best played the rôle f a dement. This was done so poorly as to expose the deception to any one at all conversant with mental diseases. He eigned to have forgotten everything connected with the past—specially everything connected with his crime, things that tamp themselves almost indelibly upon a mind capable of re- membering anything. But, at the same time, he could relate hat was given him to eat, how he was treated, and little occurences in prison life. This man is still in the State Penitentiary, nd is alleged by some to be insane.

The diagnostic points in this case are: First, the char- cter of the delusions. No one, sane or insane, can be de- ressed and animated at one and the same time. An insane erson can not have delusions of expansion (mania) and epression (melancholia) at one and the same time. Such elusions may alternate, but there is always a change in the erson's actions while possessed of an expansive or de- ressed delusion.

Second, as regards memory: In dementia, memory of ast events is always retained after memory of recent events ave faded away.

Case II.—A male criminal, about thirty years old, was confined in the Arapahoe County jail, accused of obtaining money under false pretenses. He had been incarcerated for several months, and seemed to be in fair health. About four weeks before the time set for his trial he began to have convulsive paroxysms. These continued for three weeks, although he was taking large doses of potassium bromide. The attendants at the jail were up with him night and day, two or three being required, they thought, to prevent his injuring himself against the iron bars, as he threw himself about at a violent rate. Dr. McLauthlin, the county physician, had seen him a number of times and pronounced the attacks hysterical or feigned. He requested me to see him. I visited him early one morning, found him strapped down and three attendants by him. They stated that he had been having convulsions every few minutes all night, and that it was with great difficulty that they could prevent him from injuring himself. His pulse was 110; breathing rapid; temperature normal. His face was pale and haggard. While I was talking with him he said: "Now it is coming again," and began to roll his eyes upward. His face was twisted from side to side, not spasmodically jerked by individual muscles. Soon his arms and legs were involved and he assumed an opisthotonic position. I spoke to him; he neither answered nor gave the least sign of hearing. I opened the eyes and found the pupils reacted to light. Without further examination I placed the balls of my thumbs over the supra-orbital nerves at the point of their emergence from their foramina, and pressed with considerable force. The result was marked and almost instantaneous. He at once endeavored to turn his head from me, but, failing in this, he clinched my hands with both of his and pulled, and at the same time freed his head from my grasp by a voluntary rotation of his head. I requested the attendants to leave the cell. I then told the prisoner that I had caught him feigning, and that if he had another such spell while he was in jail I would go into Court, if called upon to testify in his case, and swear that he was feigning, which would prejudice the jury's mind against him. He promised to desist from another attempt. I had him unstrapped and dismissed his attendants, assuring them that he had no further need of their services. His epilepsy was cured. His object in feigning epilepsy was to be transferred to the County Hospital for treatment, from which he knew he could effect his escape.

Mercenary Class. Case I.—Miss O. fell, in stepping from the car of the Denver Tramway Company in January, 1889, striking the back of her head against the ground. She seemed to be dazed or semi-unconscious, and was taken into a house a few yards distant, where she remained in about the same condition until transferred to Saint Luke's Hospital the next morning. She was in the hospital two to three weeks, and about one week of this time she seemed to be semi-unconscious, but irritable and cranky all of the time. It was learned that there was some bruising of the soft tissues over the occipital bone just to the left of the prominence of this bone. It was thought by the surgeon under whose care she was at the time she remained at the hospital that there was a fracture of the occipital bone, with depression of the fracture.

By order of the Court, Dr. H. A. Lemen, Dr. H. A. Baker. and the writer were appointed to examine into her condition, The examination took place October 17, 1889. Her history, as she gave it to us, was as follows: She said she had always enjoyed good health up to the time of the accident, but since that time she had lost just forty pounds by actual weight; she had grown nervous; suffered much from pains in the back and head, especially in the occipital region; was sleepless; could not see the largest letters on the street signs, and it was with great difficulty that she could walk. We found her temperature, including that of the surface of the head, normal. The motorial and sensory phenomena showed no deviation from health. The electrical reactions and reflexes, deep and superficial, were good and equal on both sides. Touch, taste, smell, and hearing were well preserved and about equal on both sides. We now came to the eyes. She contended that before the accident she could read fine print and signs at a distance, as well as the ordinary person, without the use of glasses. We found the pupils equal, reacting well to light and accommodation, and about normal in size. The ophthalmoscope showed healthy fundi. The fields seemed contracted, but, on repeating the examination several times, the size of the fields varied very considerably. She was shown a book and professed to be unable to see whether or not there was any print in it. Of large letters, which the normal eye will read at a hundred feet distance, she said she could not see what they were when held only a few feet from her eyes. Glasses, plus 36, about one dioptre, were placed before each eye. She then read fine print at the ordinary distance. The fields of vision were enlarged, and she read at a distance as well as the majority of persons. This was positive proof that she was feigning poor vision. As we had found no evidence of any organic disease, we felt justified in excluding any, especially after detecting her in feigning imperfect vision. She was nervous, irritable, and not very well nourished. After excluding everything except spinal irritation, we next proceeded to test the truthfulness of her statements regarding her health before the accident. We weighed her and found that she was nearly ten pounds heavier than she professed to have been two days before her examination. Upon inquiry of her employer at the time ot and before the accident, we learned that she had not been well. He said that she looked as well in October as she did in January before the accident, and that while she was living in his family she had been nervous, irritable, and poorly nourished, and required to rest in bed one day every week or two on account of pain in the lower portion of the body. The physicians who had treated her before she came to Colorado stated that she was irritable and nervous, and suffered from uterine trouble while under their care. Since our official report we have seen her on the streets of Denver walking as briskly and nimbly as one in perfect health.

Case II.—Mrs. H., aged thirty-three, was a passenger on the Santa Fé train at the time of the Fountain explosion from giant powder in May, 1888. Her face and hands were cut with glass, and she was shaken up considerably. The explosion took place about 4 o'clock, A. M., while the passengers were all asleep. She stated that before the accident she had enjoyed perfect health, but since that time she has been nervous and sleepless, and has suffered from pain in the head and spine. She has brought suit against the railroad, and, as with most persons who are waiting the award for damages, every symptom is exaggerated. The first examination, in August, 1889, was highly unsatisfactory, as she complained of the slightest contact of substances with any portion of the body. After a prolonged examination I could find no evidence of any organic trouble, and so informed her. She presented herself a few months ago, and still no symptoms of any organic lesion were found. On May 16, 1890, she again presented herself for examination, with the following account of her symptoms: She says she has constant pain from the middle of the back, running through to the stomach; has great difficulty in rising from the sitting to the erect posture on account of pain in the back. The pain in the back runs from below upward. Complains of pain and a drawing sensation in the legs and feet at night. She is exceedingly nervous and feels as if something was going to happen. Says she is unable to read fine print, and a bright light is painful; is deaf in the left ear, and can hear only imperfectly with the right. Says that conversation carried on in an ordinary tone of voice she does not hear; complains of buzzing in the head and a dizzy sensation, a feeling likened to lumps in the back of the neck, and a drawing sensation of the post-cervical muscles, causing her to bend her head backward.

Examination.—Gait good; no ataxic symptoms; knee-jerks equal, but slightly exaggerated. All the other deep reflexes normal, as are the superficial reflexes. A thorough and prolonged electric test, both with galvanism and faradism, showed normal reactions. The results of testing the sense of touch were curious and significant. Some time was spent in trying to ascertain the condition of this sense. At one time it was normal; the next minute it would vary greatly from the normal, or she would profess not to be able to feel anything. There was no paresis, paralysis, or wasting of any muscles. She was able to bend the back in various positions without complaint if her attention was kept engaged, but her movements became limited and painful when her attention was directed to what she was doing.

The dynamometer registered R. 80; L. 80. On requesting her to try the instrument again, it registered, only a few minutes after the first trial, R. 110; L. 104.

The examination of the special senses was not completed when I had to postpone it until the next day. As yet, two weeks having elapsed, she has not presented herself.*

Whatever real trouble the outcome of this case may result in, it is now evident that she is hysterical and feigning, and thus, by her over-anxiety to appear injured, she may be preventing the detection of some organic lesion.

Case III.—Mr. M., a nervous, slenderly built man, about forty-five years old, was injured on the Denver Tramway Road by being struck on the back by a wagon while in the act of getting on a car. He was knocked down and rendered unconscious for some hours. He remained in bed about a week. About six months after the accident Dr. Parkhill and I examined him at his request, for the purpose of testifying in court. He professed to have considerable pain in the back throughout the entire length of the spine. He complained of the slightest touch on most of the spinous processes. He had a limping, halting gait, walked with a cane, and said he had most pain in the lower portion of the back and in the left leg. After two prolonged and thorough examinations we found movement much more free and extensive than he had stated. Sensation in every portion of the body was normal. The reflexes and electrical reactions showed no deviation from health. We could find no positive evidence of any organic lesion, and one of us, the other not being called, so testified in court.

In conclusion, I will discuss only a few of the points suggested by the case histories that form the foundation of this communication to the society:

First, the detection of feigned epileptic convulsions. Under ordinary circumstances, the dilatation and immobile state of the pupils, the insensibility of the corneæ, the character of the muscular contractions, the onset of the attack, the stages of the seizure, and the subsequent sequelæ will serve to distinguish the true epileptoid or epileptic fit from the feigned. But we must remember, as Romberg long ago pointed out, that there may be some reflex irritability in true epilepsy, such as to produce winking when the cornea is touched. During the past year I saw an account of the observations of a German physician, whose name I have forgotten, on the detection of feigned epilepsy in crimi nals. This observer had detected simulated epilepsy in several hundred criminals simply by pressing with the ball of each thumb over the supra-orbital nerves. His position is behind or at the head of the "suspect," with his face looking toward the simulator's feet. In this position one can exert considerable pressure on the supra-orbital nerves, and if the patient is not unconscious he is unable to bear the pain, and soon endeavors to free himself from the operator's grasp. I have not had the opportunity to try this test in attacks of true epilepsy, but here a corrugation of the forehead would not be sufficient to pronounce the case feigned, because there may be some reflex action of the muscles even when a person is unconscious. I have had the opportunity of employing this method in detecting feigned epilepsy in four malingerers, and in each the attack was cut short, and the simulator exerted himself voluntarily in order to get relief from the pressure.

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* Her suit has since been decided in the U. S. District Court. She sued for $25,000, and was awarded $750 damages.

Before leaving the subject of feigned epilepsy I wish to utter a caution—viz., that because a person is caught feigning epilepsy we must not at once conclude that he does not suffer from real epilepsy. Real and feigned epilepsy, I think, were exhibited by at least one of the persons whose cases have just been narrated.

Feigned Insanity.—In the majority of cases of simulated insanity the deception is comparatively easy to expose. It is self-evident that the task is made easy in proportion to the familiarity of the examiner with the different types of insanity and their differential diagnosis, and in proportion to the amount of clinical study he has given to the insane. It sometimes happens that an asylum superintendent is a poor diagnostician of insanity, because, in many instances, of the large amount of executive work devolving upon him, thus leaving him insufficient time to devote to the intelligent and systematic study of minute peculiarities of individual cases and groups of cases. It is rarely that a simulator of insanity is sufficiently informed in regard to the diagnostic symptoms of the different varieties of the disease to prevent his confounding them. His task is especially difficult when he attempts to simulate mania, melancholia, or dementia. In mania or melancholia the patient may be boisterous or quiet, but in the former the delusions are always of an expansive character, while in the latter they always take a depressive form. In dementia, a form of insanity probably one of the most difficult to feign, the failure of memory is just the opposite to what the ordinary layman, when he attempts to simulate, will assume. In this form of insanity memory for recent events is first lost or affected, while that for occurrences which took place before the mind became impaired is often retained with great minuteness for details; and this holds good until the mind becomes almost a total blank. The patient is usually quite talkative unless harassed by depressive delusions. Recent events, unless of an extraordinary character, make no or but little impression. He is unable to tell what occurred the day before, or what he ate the previous or probably the same day. Any one who has studied the diagnostic symptoms of dementia and is at all conversant with the symptoms exhibited by T. must realize that by deception this criminal has thus far cheated justice.

In stuporous insanity malingering is sometimes hard to detect. A case of feigned stupor reported by Field in the *New York Medical Journal* for May 3, 1890, will illustrate this:

"Since his admission he had not spoken or made any voluntary movement; would follow where he was led; if put in a chair, would remain there; would not partake of any food or water unless they were put in his mouth; would swallow mechanically. Sometimes he would wet his clothing or the bed. He had a fixed, staring expression, only occasionally winking. He was not cataleptic, although two physicians had so certified to the District Attorney. Nothing would startle him out of his condition—neither pricking, nor dashes of cold water, nor pressure on the supra-orbital nerves. He lost thirty to forty pounds of weight. Subsequently he was sent to the Jefferson Market prison, from which he escaped by sawing out a bar in conjunction with another prisoner. His associate was recaptured and told how he had aided the malingerer in his deception. The feigning of the prisoner had been carried on for three or four months."

Real or Pretended Traumatic Cerebro spinal Affections, especially such as follow Railroad Accidents.—That cases of severe and permanently disabling nervous injuries follow upon and are caused by the physical and mental strain incident to severe railroad collisions are as well attested as that cases claiming such injuries have been suddenly and permanently cured after damages for the same have been settled by the company sued. In the few remaining minutes for which I crave the society's indulgence I shall not attempt to discuss the positions taken by three classes of writers on the so-called "cerebro-spinal shock." One class, represented by the railroad surgeon, who often becomes in these suits for damages railroad advocates, contend that most of the symptoms are simulated. The second class is formed by Charcot and his disciples, who at one time maintained that all of the symptoms might be accounted for on the theory of hysteria, especially the class which he designates traumatic hysteria. And the third and last class is composed of the over-enthusiastic so-called medical expert, who is too apt to accept the statements of the patient implicitly and attribute all of the symptoms to some obscure organic disease of the nervous system. Practically we meet with applicants for remuneration the symptoms of whose injuries are mostly, if not entirely, feigned; and others whose ailments are purely of an hysterical nature, and yet others whose symptoms are due to organic disease of the nervous system. On the other hand, it is not infrequently that we may find the simulated, the hysterical, and the organic symptoms combined in the same patient at the same time.

We may ask, What should be the testimony of the medical witness when called upon to testify in regard to nervous injuries, real or feigned, alleged by parties suing for damages? He should be unbiased, and base his testimony on demonstrable facts and not upon possibilities. It is well to bear in mind that the central nervous system may have sustained permanent injuries and no objective symptoms be manifest to the most careful examiner until several months, or perhaps one or more years, after the accident.

This should teach the claimant caution. In such cases, if the patient's health is not being injured by delay of legal proceedings, the suit should be deferred as long as possible. The examinations should be made jointly by at least two physicians—one for the plaintiff and the other for the defendant—and these should consult together simply to arrive at the truth. The examinations should be thorough, and repeated sufficiently often to prevent erroneous conclusions. The patient's body should be bared, the spines of the vertebræ and the muscles of the back carefully examined—the former for tenderness and deformity, and the latter for tenseness or rigidity. We should look for wasting of muscles. Next, the patient should be required to bend the back in different positions, and the freedom or restraint of motions observed and carefully noted. The gait of the patient should be scrutinized, and all of the tests for ataxic symptoms carefully employed. The reflexes, deep and superficial, should be thoroughly investigated, after which a careful electrical test for the condition of the nerves and muscles should be used. The tactile, muscular, temperature, weight, and pain senses should be carefully examined and compared on the two sides of the body. This is sometimes of the greatest importance, especially when hysteria or feigning is suspected. I have some cases of organic lesion of the cord under my care at present in which, in certain portions of the body where the senses of touch and pain are present, the sense of temperature is abolished. There should never be less than two thorough examinations, and the results of the second examination should be compared with the first. The condition of the special senses should never be neglected. The patient's own story of his sufferings should be duly considered, but only in connection with the results of the examination. In other words, we should never be led into the error in these cases, where heavy damages are claimed, of making a diagnosis on subjective symptoms only, as has occurred in a recent case in this city. The health of the patient prior to the accident should be ascertained, if possible. If, after careful and repeated examinations, we find no objective evidence of disease of the nervous system, it seems to me that the only thing left for the medical witness to do is to so testify; for, if we have to base the diagnosis entirely on subjective symptoms, unaided by physical signs, we are placing the companies sued, so far as our testimony is concerned, on the honesty of the claimant for damages. Some of our courts of this city have decided, and it seems to me properly, that if the medical man has to base his opinion of the case entirely upon what the patient tells him, such testimony in those cases is inadmissible, and the claimant's statements must go direct to the jury without being interpreted for them by a physician.

I wish to say, in conclusion, that the physician who has carefully studied these cases and compared the results of different examinations will soon be able to sift the truth from the feigned symptoms of disease. Especially is this true when the physiognomy of the patient is studied during the examination and compared with its appearance when his attention is not absorbed by the examiner's method of procedure.

AN INQUIRY INTO THE RELATIONSHIP OF AMYGDALITIS TO THE CEREBRO-SPINAL CENTERS.

By J. RICHARDSON PARKE, Ph. G., M. D.

Lesions of the buccal and guttural mucous membrane and its underlying structures, especially acute suppurative amygdalitis, by reason both of their frequency and extremely painful character, challenge to-day no insignificant share of the practitioner's attention, and warrant, I trust, the public expression of whatever opinions experience or observation may dictate in reference both to cause and treatment.

When we remember the anatomy and physiology of the tonsils, both of which are admirably set forth in the Lancet for 1888, ii, 805–807, by Spicer, the tenuity of the follicles which comprise the gland, the character of secretion, and the intimate manner in which it stands related to both great divisions of the nervous system, comparing their somewhat unique physiology with the remarks which every physician must sometimes hear in reference to certain peculiar phenomena attending the onset of the disease, I can not but wonder that the attention of pathologists has not been directed more specifically to the question of idiopathic neurotic influence in the causation of this exceedingly prevalent and painful complaint.

Most common in young strumous constitutions, which it is well known are usually of high-strung nervous temperaments, it has hitherto been supposed, even by such close observers as Ringer, Cornil and Ranvier, and the late Professor Gross, to be dependent upon such trivial causes as cold, exposure, etc., without even an inquiry into the remarkable fact that similar exposure will *invariably* produce in one amygdalitis, and in another *always* pharyngitis and *never* amygdalitis; in one the slow, deliberate changes of a typical membranous inflammation, in the other a rapidly developing suppurative cellulitis.

That the disease is not induced primarily in insusceptible subjects by either cold or exposure is proved by a thousand facts within our knowledge. Some of our old army surgeons who witnessed the horrible exposure of our soldiers on some of the Southern battle-fields, as well as the Surgeon-General's Reports, speak of comparatively few cases of tonsillitis, while tetanus, sciatica, and other neuroses were exceedingly prevalent.

After the battle of Ticonderoga in 1758 the wounded were exposed all night in open boats on Lake George. Nine died of traumatic tetanus; *no* cases of amygdalitis. On board the frigate Amazon before Charleston, in our war with the British, similar reports are recorded. The battles of Bautzen and Dresden in Napoleon's third campaign, and a thousand others in history, furnish similar instances (Gross). Amygdalitis is uncommon to the higher types of virility, but occurs chiefly in anæmic, delicate girls, and in men sometimes when the nervous system is unstrung by excesses, either sexual or alcoholic. A patient of mine, a mill girl, having no exposure to cold, developed acute amygdalitis four hours after being struck in the back by a loose belt; and while practicing in Philadelphia I treated a case of suppurated tonsils *palpably* induced by reading the newspaper details of a fire on Pine Street, where two people were roasted to death. The lady had never left her comfortable room, yet the onset of the disease occurred within *three hours* after reading the horrible details.

The glosso-pharyngeal nerve rising from the gray nuclei in the floor of the fourth ventricle is very closely connected with the pneumogastric, sympathetic, and facial nerves, and at the superior cervical ganglion it touches like the key of a battery the whole sympathetic system, both giving and receiving impressions, and, being a branch of the eighth pair, it also stands intimately related to the spinal accessory, which receives filaments from the lateral tract as far down as the sixth cervical, while its connection with the vagus renders the circuit complete and gives ground for the peculiar pathological phenomena referred to.

In support of the theory of neurotic influence in the causation of amygdalitis, it may be observed that the lymphatics of the submaxillary base, as well as the buccal and salivary glands, are always more or less involved. That sensation popularly known as "creeping of the flesh," supervening upon certain conditions of mental horror, and the quivering of the subcutaneous areolar tissue in bodies recently dead exemplify this peculiar nervous condition, which is somewhat difficult to describe. The irritation of the spinal accessory within the cranium induces convulsive movements in such muscles of the larynx as are supplied by branches of the vagus, showing its accessory relationship to that nerve, as also the mixed quality of its filaments, while the glosso-pharyngeal, being a nerve of common sensation, acts centripetally to reflect stimuli to adjacent contractile surfaces, chief among which are the pharyngeal constrictors, tonsils, and fauces, as well as the tongue itself as far forward as the foramen cæcum (Gray), all of which are intimately involved in acute forms of the disease.

It was a matter of early observation, recorded by Luys, Neftel, and others, that severe mental as well as physical impressions were potent in inaugurating pathological processes in such structures as hereditary or fortuitous circumstances had sufficiently debilitated, and it is now admitted by all neurologists that when the mind is intensely occupied, very slight neurotic stimuli will produce involuntary and reflex movements of corresponding intensity. Mr. Darwin records it as a fact of his observation that an instinctive reflex act may override even the strongest efforts of volition, and Mr. Kirke assumes, as the result of experiment upon frogs, that both optic lobes and optic thalami are distinctly concerned in the government of these reflexes, although it is the opinion of most physiologists, Mr. Foster among the number, that, as reflex acts are performed after division of every segment of the cord, the reflecting power of the latter is almost, if not wholly, distinct from that of the encephalon.

As the existence and locality of the ano-spinal and vesico-spinal centers have long ago been demonstrated, it is not improbable that adeno-spinal centers also exist, any strong mental emotion acting upon which might readily affect the circulus tonsillaris, as it is well known to affect the vesical sphincters, and produce amygdalitis without *any* exposure. Indeed, both Virchow and Carswell, as well as the late Professor Vanzetti, of the University of Padua, in treating of lymphangeiectasis, definitively teach that the lesion may be produced by any cause, either *mental* or *physical*, affecting the general health, and Professor Willard Parker as long ago as 1856, speaking of concussion of the nerves, makes significant statements bearing in the same direction.

In relation to the selective seats of morbid action resulting from neurotic impressions, it must be apparent that impulses affecting the spinal structures must of necessity be of spinal origin, since the tonicity of all muscles is only destroyed by section of the cord. While we have in the ordinary muscles of contraction the tabular membrane blending with the sarcolemma and the motorial end plates intimately interwoven with the substance of the fiber, we find in the structures under consideration the sensitive end bulbs of Krause, any irritation of which may, of course, produce tonsillitis; but that it *may* supervene even without this irritation I am radically convinced.

What, then, is our morbid anatomy and *rationale* of treatment? First we should have sudden occlusion of the follicles induced by a mental impulse, transmitted to the motor nerves with consequent retention, and at the same time stimulation of secretion, which accounts, in my opinion, for the sudden onset of quinsy; followed by rapid inflammatory action, tumefaction, and suppuration of the tonsils, the glands of the mouth generally sympathizing and discharging excessive quantities of thick, ropy, and tenacious mucus.

Now, as to treatment, the first indication prior, of course, to the suppurative stage, would be a powerful solvent of animal membrane, such as papaine, which Wurtz and Bouchut pronounce the most rapid solvent of albuminous substances (Bartholow, Chapman, Potter), bicarbonate of sodium, or lactic acid by spray. Systemically, agents which depress the motorial function of the spinal cord—aconite, veratrum, and pulsatilla. The use of belladonna I have not been fortunate in, notwithstanding the apotheosis accorded it by the *savants* of the homœopathic school, and many regular practitioners besides. It dries the mucous membrane, and consequently antagonizes the action of the remedies already spoken of. Granted that it momentarily paralyzes the function of secretion, yet the testimony of Brunton, Wood, Gundry, and many others clearly shows that an enormously augmented secretion quickly follows.

I have found, acting upon my own theory in the matter, almost uniform success in a gentle but sustained opium narcosis, fortified, to prevent nausea and depression, with spirit of ether or one of the bromides, and accompanied, as spoken of, by the solvent spray.

If the barest chance of abortion exists, the course laid down will, I am convinced, afford the best hope of success, while after the inauguration of the suppurative stage the case becomes one for the nurse rather than the physician, if the knife be not called into use.

The astringent lotions or gargles so commonly used, while highly beneficial in staphylitis, pharyngitis, and other purely membranous inflammations of the mouth and throat, will be found worse than useless in this affection, although antiphlogistics are indicated in all.

IMPACTED URETHRAL CALCULUS IN A BOY OF THREE YEARS.*

By F. M. CRANDALL, M. D.

The patient, a boy aged three years, was brought to the dispensary February 5th. Three days before he had been seized with fever and vomiting, accompanied by soreness of the mouth. Examination revealed an ordinary follicular stomatitis, to which the symptoms were evidently due. Castor-oil had been given on the first day. It acted normally, but had been followed by persistent bearing-down pains and tenesmus. The rectum had been forced down almost into a condition of prolapse. But little urine had been passed since the onset of the disease, seventy-two hours before. Free doses of sweet spirits of niter had not increased the amount.

Examination showed a hard mass lying in the urethra about one fourth of an inch from the meatus. The glans was somewhat swollen, the meatus reddened, and the rectum was in a state of partial prolapse. The mass was reached with dressing forceps, and after some difficulty, due to slipping of the forceps and scaling off of the outer portions, it was removed. There was some laceration and bleeding, but it was not serious and gave no after-trouble. The child at once passed a large quantity of normal urine, and from a condition of restlessness, moaning, and crying, lay quietly back in the mother's lap and was soon asleep.

Two weeks before there had been a similar but milder attack, lasting two days. The child was fretful, passed urine in drops, and had the same straining at the rectum. During the previous months there had been occasional attacks of screaming and crying, for which no cause had been discovered. Retention of urine had not been noticed. Otherwise the child had been exceptionally healthy and had never had any severe illness. He had never passed milky urine, nor had any sediment been noticed. There had been no enuresis.

The mother is healthy and has had ten children—all living and healthy. The father has had two attacks of acute articular rheumatism—one last winter and one sixteen years ago. No history of rheumatism or growing pains could be obtained among any of the children.

The child was perfectly free from symptoms until March 3d, when he contracted diphtheria, from which he died. The mother failed to visit the surgeon to whom she had been directed for examination. It is impossible to say, therefore, whether there were other stones in the bladder. The urine examined one week after the removal of the stone was normal. The calculus weighed four grains and three quarters and consists of a uric-acid nucleus with a phosphatic crust. It was five lines in length, the transverse diameters being four lines and two lines and a half, respectively.

Though the onset of the stomatitis and symptoms due to the stone were thought to be simultaneous, there would seem to be no further connection than that of coincidence. The symptom of chief interest was the marked forcing down of the rectum, which to the mother's mind was the chief trouble. This was not continuous, however, as in the cases recently reported by Dr. Caille and Dr. Fruitnight, but only during the period of impaction in the urethra.

Aside from these two attacks and possibly what the mother called the "screaming spells," no symptom could be discovered which could in any way be referred to a calculus.

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, April 10, 1890.

THE
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Edited by Frank P. Foster, M. D.

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THE JOHNS HOPKINS HOSPITAL.

It would not be easy to overrate the importance of this institution, which was opened in Baltimore a little more than a year ago. Much has been published about it, referring chiefly to its prospective features, and that has made a decided impression on members of the medical profession and on philanthropists in general; but a record of what has been done is likely to make a still deeper impression. This seems to have been the trustees' conviction, and accordingly they asked Dr. John S. Billings, whose efficient aid in planning the institution they cordially acknowledge, to prepare a description of the grounds and buildings. This he has done, and his description, together with certain introductory matter, including his own address at the opening of the hospital, makes a quarto volume of more than a hundred pages of letter-press, followed by fifty-six full-page plates. Most of the plates are architectural plans and sections, but many of them show views of the buildings, including a number of interiors. The views are excellent reproductions of well-made photographs. They are very artistic pictures, but it is apparent that in their preparation there has been no straining after striking effects. The letter-press of the volume is correspondingly creditable as a piece of mechanical work.

From a study of the description and the illustrations it is abundantly evident that in the hospital, as in the volume, the adaptation of means to ends has been held paramount to mere pleasantness of aspect. The buildings are plain, but well proportioned, conveniently distributed over the grounds, and of an attractive general appearance. The same may be said of such of the appliances as are described and figured. In all this Dr. Billings's guidance has been apparent from the outset, and the handsome way in which this is acknowledged by the trustees is most gratifying, for it is seldom that a medical man's work is so appreciated.

It may be remembered that, when the trustees began their task of carrying out Hopkins's instruction to provide for a hospital that should, "in structure and arrangement, compare favorably with any other institution of like character in this country or in Europe," they first, also in accordance with his injunction, sought advice. They procured plans and descriptions of what such a hospital ought to be from a number of men familiar with the workings of great general hospitals. Each of these men wrote an essay, and the essays were studied by the trustees and published in the form of a volume. The trustees thus incurred a debt which they now repay by the publication of the volume before us—one that will go far to assist the designers of hospitals yet to come in doing their work satisfactorily and without undue loss of time.

THE MIDWIFERY DISPENSARY.

The task of teaching obstetrics practically to medical students is one that, for its full and satisfactory accomplishment, calls for agencies and appliances that can not be put into operation without much good management on the part of the teachers, to say nothing of their self-sacrificing devotion to the work. To make the student a mere spectator in a lying-in hospital is not enough; being relieved of all responsibility, he is apt not to draw upon his own capability to the extent necessary to train it for the demands that he will eventually have to make on it in his practice. He who would study the art of obstetrics to the greatest advantage must exchange the comparative ease of hospital life for hard work in the tenement-houses. Lying-in hospitals are very useful institutions undoubtedly, serving as a refuge for the homeless and the deserted; but their maintenance is expensive and the number of their inmates is necessarily limited. In any degree to which it is practicable to multiply them, they can not afford all the aid, or even a tithe of it, that the community wishes to furnish to poor women in their time of need; hence it is most desirable that their work should be supplemented to the utmost by organized medical attendance on poor women in their own homes.

Organizations for that purpose have been at work successfully in New York for many years, but they have never been adequate to the amount of work to be done, and in some respects they have been defective in what might reasonably have been expected of them. We are very glad therefore to be able to announce the recent establishment of an obstetrical institution which, after close observation of its methods, we look upon as not only an important addition to our agencies for ameliorating the condition of the poor, but also as an educational resource of the most promising kind. This is the Midwifery Dispensary, which has been in operation since last December. It is situated in a dense tenement-house district, at No. 312 Broome Street, a short distance east of the Bowery. No medical treatment is carried out in the house; the premises occupied by the dispensary consist only of offices in which sufficiently minute and very carefully arranged records are kept. of sleeping-rooms for the resident physician and the students, and of store-rooms. There are three attending physicians, all of whom are men of experience in obstetrics and have been engaged in teaching it for a number of years. One of the physicians is in attendance at the house daily for a certain number of hours, and is always, when it is practicable, present at a confinement. The material appliances in the way of instruments, dressings, medicaments, etc., are ample, and the establishment is perfectly in readiness to afford its full resources at short notice and to meet any sort of obstetrical or puerperal complication.

Most praiseworthy discretion has been shown in settling the extent to which students are allowed to take part in the observation and conduct of cases. The details of the plan are too many to be mentioned in this article; it is enough if we say that they allow the student the fullest scope compatible with safety, and that they secure to the patient the presence of a licensed physician invariably. In return for a very small fee' a student resides in the house for a specified term, and takes part in the management of a definite number of cases. Students are allowed to renew their terms of residence when it can be done without excluding other applicants, so that a continuous residence of considerable duration is often practicable. They are provided with the means of pursuing their studies, and their personal comfort is well looked after.

Many an established physician, looking back upon the disadvantages under which he slowly and laboriously and timidly acquired his knowledge of obstetrics, will be glad to learn of the facility with which a practical familiarity with the art may now be gained; if he will also commend this and kindred institutions to his benevolent friends and patients, he will aid materially in furthering the work of medical education as well as in promoting the alleviation of distress. In advancing both these purposes the medical profession has always been earnest and active.

MINOR PARAGRAPHS.

OXYGEN INHALATIONS IN PNEUMONIA.

The *Lancet* remarks that the action of oxygen inhalation is very often disappointing. It seems in practice far more inert than one might reasonably expect from its life-supporting properties. Various explanations have from time to time been offered, but its efficiency still remains rather circumscribed. One of the diseased conditions in which its inhalation has been most beneficial is the dyspnœa of uræmic intoxication. Another disease has lately been pointed out anew by Dr. John Chambers as suitable for oxygen inhalation. This is pneumonia, and the time for using oxygen with benefit has been found by him to be that very critical stage when lividity and cyanosis testify to the difficulty with which the circulation is being carried on. Since the direct result of an impeded circulation is a deficient aeration of the blood, it is not surprising that oxygen inhalation affords a certain promise of relief. Under its use the lips recover their redness, the breathing becomes easier, and the enfeebled heart's action is re-enforced. Dr. Chambers is satisfied that he has saved life in cases in which, from all the indications present, a fatal result was inevitable.

EXHIBITIONISM; A SEXUAL PERVERSION.

M. Magnan has recently presented to the Société de médecine légale the history of two cases showing that variety of sexual perversion not infrequently observed among men living in cities, known as "exhibitionists," or those having the propensity to expose their genitals in public places or to individuals, usually women whom they meet in unfrequented places. According to the report of these cases in *Progrès médical*, one of the subjects presented unmistakable hereditary defect, and both showed present typical degeneracy. The author classes these persons with the kleptomaniacs, the pyromaniacs, and the suicidal and homicidal insane. These degenerate beings are ordinarily a great trial to the police and are exceedingly shrewd in the avoidance of arrest; but imprisonment has little deterrent or reformatory influence upon them. They are seldom persons who have a steady form of employment. It is probable that they are psychically incapable of acquiring a regular trade or business or of applying themselves to its pursuit.

THE ROOSEVELT HOSPITAL.

Last year Mr. William J. Syms died after having bequeathed the sum of $350,000 to the hospital for the purpose of building an operating theatre. In expectation of receiving the legacy, the trustees set about excavating for the foundation of the building, but the validity of the will was contested, and they suspended the work. Now it is announced that the contest has been discontinued, and it is expected that the theatre will be built.

"INFANT INDUSTRIES."

A clerk in the employ of the Brooklyn Board of Health was recently detected in furnishing information regarding returns of births to certain selected manufacturers. The *World* remarks that he "is doubtless one of those kind-hearted persons who are in favor of protecting and helping along our infant industries."

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 22, 1890:

DISEASES.	Week ending July 15.		Week ending July 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	26	6	24	7
Scarlet fever	44	5	43	7
Cerebro-spinal meningitis	1	1	1	0
Measles	240	19	215	10
Diphtheria	54	15	72	21
Varicella	3	0	7	0

The Mississippi Valley Medical Association.—At the meeting to be held in Louisville on the 10th of October, Dr. John A. Wyeth, of New York, will deliver an address, and Dr. Frank Woodbury, of Philadelphia, will read a paper.

The Red Cross Society of Munich.—Mr. Henry Villard, of New York, is reported to have given the Red Cross Society of Munich the sum of $12,500 as a contribution toward the construction of a hospital for the society.

The American Chemical Society will hold a meeting at Newport, R. I., on Wednesday and Thursday, August 6th and 7th.

The Luzerne County (Pa.) Medical Society will hold a meeting at Glen Summit on Wednesday, August 6th, under the presidency of Dr. G. W. Guthrie, of Wilkesbarre.

The Medico-chirurgical College of Philadelphia.—Dr. W. C. Hollopeter has been elected Lecturer on Diseases of Children, and Dr. Ernest B. Sangree Director of the Histological Laboratory.

Change of Address.—Dr. Walter Lester Carr, to No. 8 East Fifty-eighth Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, for the week ending July 19, 1890:*

Arthur, William H., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for three months, to take effect September 15, 1890, or as soon thereafter as his services can be spared. Par. 1, S. O. 160, A. G. O., Washington, D. C., July 11, 1890.

Maus, Louis M., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence on surgeon's certificate of disability granted in S. O. 4, January 6, 1890, from this office, is extended six months on account of sickness. Par. 16, S. O. 160, A. G. O., Washington, D. C., July 11, 1890.

Corbusier, William H., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for four months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. Par. 4, S. O. 162, A. G. O., Washington, D. C., July 14, 1890.

Page, Charles, Colonel and Assistant Surgeon-General, Medical Director of the Department, is granted leave of absence for one month, to take effect the 30th instant. Par. 3, S. O. 91, Department of the Missouri, St. Louis, Mo., July 14, 1890.

Phillips, John L., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for two months. Par. 4, S. O. 164, Headquarters of the Army, A. G. O., Washington, D. C., July 16, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending July 19, 1890:*

Anzall, E. W., Assistant Surgeon. Detached from U. S. Steamer Galena and to wait orders.

Eckstein, A. C., Surgeon. Granted leave of absence for the month of August.

Penrose, T. N., Medical Inspector. Granted leave of absence for two weeks.

Cabell, A. G., Passed Assistant Surgeon. Granted leave of absence for the month of August.

Ashbridge, Richard, Passed Assistant Surgeon. Granted one month's sick leave.

Heyl, T. C., Surgeon. Granted leave of absence for the month of August.

Cooke, George H., Medical Inspector. Detached from Navy Yard, League Island, and ordered to the Pensacola.

White, C. H., Medical Inspector. Detached from the Pensacola and to proceed home and wait orders.

Hoehling, A. A., Medical Inspector. Detached from Naval Hospital, Washington, and ordered to League Island Navy Yard.

Wells, H. M., Medical Inspector. Detached from Museum of Hygiene and ordered to Naval Hospital, Washington, D. C.

Whitfield, James M., Assistant Surgeon. Ordered to U. S. Steamer Ajax and other Monitors.

Woolverton, Theoron, Medical Inspector. Ordered to the U. S. Steamer Philadelphia.

Lovering, P. A., Passed Assistant Surgeon. Detached from the U. S. Revenue Steamer Wabash and ordered to the U. S. Steamer Philadelphia.

Bailey, T. B., Assistant Surgeon. Detached from the U. S. Revenue Steamer St. Louis and ordered to the U. S. Steamer Philadelphia.

White, S. S., Passed Assistant Surgeon. Ordered to the Marine Rendezvous, San Francisco, Cal.

Society Meetings for the Coming Week:

Wednesday, *July 30th:* Gloucester, N. J., County Medical Society (quarterly); Middlesex, Mass., North District Medical Society (Lowell).

Letters to the Editor.

THE MANAGEMENT OF THE MENSTRUAL EPOCH.

4 King Street, New York, *June 26, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your June 14th issue there occurs a letter entitled "The Management of the Menstrual Epoch," which refers to and recommends the use of tampons during menstruation, and claiming for such use, if adopted, the marking of "a new era in the alleviation of human suffering." The idea is a very old one among Eastern nations, and the use of paper-ball tampons (wood pulp and silk fiber) is universal among Japanese women.

I quote from Professor Wernich, late gynæcologist to the Medico-surgical Academy, Tokio, Japan,* as follows:

"The first rule which a menstruating woman observes in Japan is *rest.* Absolute abstinence from sexual enjoyment is strict law; there are distinct prescriptions against locomotion in the house, and especially in the street; cleanliness during that period, as washing is considered as very injurious, is taken care of in a quite peculiar way. To let menstrual blood touch the body or the linen, which is to be still used, would pass for the *ne plus ultra* of uncleanness. Therefore the menstruating woman kneads or rolls, with one of the sheets of white papers—of which she carries always a large provision, for that very purpose, in her right sleeve—a ball from the size of an almond to that of a large walnut, and inserts it into the vagina, replacing it by another when it is soaked in blood. In cases of fluor albus I have also frequently found such paper balls in the vagina. From the number of the balls used in the menstruation, conclusions are drawn as to its abundance and favorable course." Albert S. Ashmead, M. D.

Proceedings of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN SURGERY.

Meeting of Friday, February 21, 1890.

Mr. Edward Hamilton in the Chair.

Erasion of the Knee Joint.—Mr. Lentaigne, at the request of the chairman, described the operation of erasion of the knee joint which he had performed upon a young man whom he exhibited. The patient had been two years and four months suffering from white swelling of the knee joint previous to the operation, but no external sinuses had appeared. The case seemed to be suitable for erasion, and he had performed the operation, which was his first of the kind, by making the usual horseshoe incision. After denuding the patella he had sawed clear through the middle of it. Turning down the lower and turning up the upper fragments, respectively, he had removed all the synovial membrane, cleaning away a mass of tubercular tissue in the crucial ligaments. Then he had stitched with catgut the lateral ligaments, which were both cut, and the patella. The condition of the joint was that of pretty advanced tubercular disease. In parts, the synovial membrane was about an inch thick, with a caseous mass in the center. Inside the joint there was apparently an abscess, due to the breaking down of a caseous mass. As regarded after-treatment, he had applied permanent dressing, using plenty of iodoform and large rubber drainage-tubes, which remained for a month, when the knee was again dressed. The patient had worn Thomas's splint, which tended to the success attained. It was intended that he should return after a year to get the knee flexed, but the speaker feared that in trying to restore full functional value by forcible flexion harm might be done.

On a Series of One Hundred Cataract Extractions.—Mr. Swanzy read a paper on a series of one hundred cataract extractions. He employed the three-millimetre flap operation, with a very narrow iridectomy in the upper quadrant of the iris. He instilled eserine prior to the operation to facilitate the obtaining of a neat coloboma, which it was difficult to procure if the iris prolapsed, and the reduction, after delivery of the lens, of all the rest of the iris into the anterior chamber. Quite a narrow coloboma was required, and was sufficient to efficiently protect the eye against the danger of secondary iris prolapse in the course of the healing—a danger to which eyes operated on by the simple method were so liable, as it provided a gateway by which the aqueous humor contained in the posterior chamber might escape through the wound, without carrying with it a portion of iris. Mr. Swanzy considered that such an iridectomy was no "mutilation of the iris," but rather a measure which rested upon a sound scientific basis, and which was calculated to protect the eye against a serious danger. In this series the iris was incarcerated in the cicatrix in one eye only. After the lens was extracted the wound was carefully searched with an iris forceps for any tag of capsule which might have prolapsed into it, and if any was found, it was drawn gently forward and snipped off with the scissors. A tag of capsule was found in the wound in nine of the one hundred eyes operated on. He strongly recommended this proceeding. The antiseptic measures consisted in the washing of the patient's face with hot water and soap, and the washing and wiping out of the conjunctival sac with a 1-to-5,000 solution of sublimate lotion just before the operation, while all through the latter the same lotion was used for wiping and irrigating the wound and surface of the eyeball. No sponges were used, but small bits of lint which had been boiled in the sublimate solution, and which were kept stored in it. The solutions of eserine, cocaine, and atropine were all made with sublimate solution, 1 to 5,000. Prior to the operation the instruments were boiled, washed in absolute alcohol, and laid ready for use in a bath of a one-per-cent. solution of carbolic acid. After the operation they were again washed in absolute alcohol. The dressing consisted in a layer of lint previously boiled in sublimate lotion, and wet with it; over this absorbent wool similarly boiled and wet, then a layer of oiled-silk protective, and then the bandage. This was not disturbed for forty-eight hours. The results obtained consisted in ninety-three per cent. good vision, five per cent. moderate vision, and two per cent. losses. The two losses were due to suppuration, and were the only cases of suppuration which occurred. In each of them the operation had been normal.

The Chairman noted with interest the careful manner in which the antiseptic system of surgery was apparently carried out in the operations; and he suggested a discussion upon the value of iridectomy as part of, or an element in, the operation of cataract extraction.

Mr. Story asked whether the series represented the last one hundred cases in which Mr. Swanzy performed the extraction of cataract by the three-millimetre flap, with iridectomy, and so included cases complicated and uncomplicated—*i. e.*, with dislocation of the lens, synechia anterior, and synechia posterior, the result of old iritis. But even if the series consisted of one hundred selected cases, the results attained were admirable, as showing a total loss of only two per cent., while achieving moderately fair sight in five per cent., and good in ninety-three per cent. (taking it as "good" when the patient had a vision of six sixtieths). In the *Dublin Medical Journal*, 1880, he himself had published a series of his first forty-seven cataract extractions, showing a loss of seven or eight per cent., recording as loss or failure where the patient could not count figures at a yard or two yards off, and he found that the records of eleven thousand or twelve thousand extractions disclosed a similar percentage of failures. Hence the question which he asked. He agreed with Mr. Swanzy as to iridectomy forming part of the operation, being of opinion that it facilitated the removal of the lens and prevented the danger of prolapse of the iris. He also agreed with Mr. Swanzy as to the importance of antiseptic precautions. In St. Mark's Hospital a different plan was followed. The eye was washed with a solution of hydronaphthol, and the instruments were boiled in the same, while the operation was done under cocaine. He did not, however, take the trouble Mr. Swanzy advocated, of inserting an iris forceps afterward to search for pieces of capsule. He dusted over the surface of the wound and eyeball with finely powdered iodoform. As regarded irrigation proposed by Dr. McKeown, of Belfast, for washing out the cortex, he had not found it useful. The cortex was injured by nearly all the substances employed to wash out the anterior chamber, even by pure water. In his paper he had advocated the three-millimetre flap extraction in opposition to the linear extraction of von Graefe, which was then in vogue. It was a mistake to call the operation von Graefe's, for the operation owed its existence to De Wecker, one of the great ophthalmologists of Paris. Shortly after De Wecker had described it he had read the paper, and had been struck with the simplicity of the operation, which he had been the first to perform in this country. He had advocated the operation, but it had met with Mr. Swanzy's disapproval at the time. Therefore it was a pleasure to find that Mr. Swanzy now considered it the best operation for cataract extraction.

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* *Geographico-medical Studies after the Experience of a Journey Around the World.* Chapter on Adult Men and Women of Japan. Berlin, 1878.

Mr. Fitzgerald said that Mr. Swanzy had distinctly stated that, strictly speaking, the operation was not Graefe's, but was Graefe's modified. The operation which he himself had been in the habit of doing was identical with Mr. Swanzy's up to a short time ago, when he had determined to try the simple operation —the extraction without iridectomy. He did not make his incision quite the same as Mr. Swanzy's; he made his puncture a little outside the clear cornea, and he brought the upper part of the flap well into the clear cornea. For comparison he was anxious to give statistics—twenty-six cases of extraction without the iridectomy in hospital practice, and also fifty-six in private practice, and then going back and taking twenty-six with iridectomy in private practice; but the twenty-six hospital cases with iridectomy he had been unable to procure. He judged his results more hardly than Mr. Swanzy, who seemed content to take as "good" if he could procure the counting fingers at a few metres off. Up to the present he had himself no case to deplore, and he recollected no case of suppuration. Therefore, as far as he had gone, the results from the simple operation proved immensely superior to those obtained with iridectomy. The reasons which induced him to undertake the operation were those urged by De Wecker, and, so far, he had had no cause to regret it. Although he had had two cases of prolapse of the iris, he thought there was needless alarm, and that by using the eserine after the operation, by careful bandaging and keeping the patient quiet for twenty-four hours, there need be no apprehension of it. Of secondary operations he had had a good number, but not more than Mr. Swanzy. The difficulty of giving statistics of hospital cases arose from the fact that the hospital patients seldom returned unless compelled when they had got a cataract in the other eye; but in private practice the patients came to get further improvement of vision. As regarded antiseptic treatment, he carried it out more in the way Mr. Story described than in Mr. Swanzy's. He could not rise to the point of boiling the instruments, which was very destructive of them, at least of the handles. He used hydronaphthol, but he did not use atropine or eserine before the operation. In the dressings, bandage was the same as Mr. Swanzy's.

Mr. Maxwell would perform iridectomy where the cataract was large and hard, but would dispense with it where the cataract was soft and small. He would not select lenses till at least two weeks after the operation.

Mr. Swanzy replied. His one hundred cases were not selected, but related to all those in which he had operated to the end of 1888, excluding, of course, such a case as that of a man having a bad injury of the eye and among them a traumatic cataract, or of a young person with a cataract coming on. His classification of results was in accordance with the handy conventional method of recording them as adopted by Professor Knapp and others—viz.: "no improvement," 2; "moderate," 5; and "good," 93 per cent. But he would not set down as "good" the ability to count fingers merely at three or four metres. Where the vision reached the standard of six sixtieths he regarded that as good already, with every probability of getting better. With regard to antiseptics, he had found more satisfaction from the use of a 1-to-5,000 solution of sublimate than any other. He had no idea about hydronaphthol, but he abominated iodoform in every respect. As regarded the introduction of the three-millimetre flap operation into Dublin, he did not know of anybody having done it before himself. He had been performing it for some years, and whether or not Mr. Story began it two or three months before him did not matter. He did not call it von Graefe's operation. What he said was that it was known as von Graefe's operation, of which it was the lineal descendant; not as von Graefe left it when he died, but von Graefe's improved upon, and so properly called his. As to Mr. Fitzgerald's operation being or having been identical with his own, perhaps it was, so far as the position of the incision in the margin of the cornea went; but he was not quite sure that it was in respect of the minute coloboma or the particular care taken in respect of the capsule in the wound which he regarded as a vital matter. Prolapse of the iris with subsequent incarceration in the cicatrix was a danger, and in his series of one hundred cases it occurred once; but in Mr. Fitzgerald's fifty-two it occurred twice, being nearly four per cent. —a result nearly as good as Professor Knapp's. Mr. Fitzgerald's cases of full vision were due to his performing discission of the capsule, and not because he left out the iridectomy. As regarded iridectomy, its performance did not, as Mr. Maxwell had suggested, depend on whether the cataract was soft or hard, whether the patient was going to get a prolapse of the iris or not, but whether the wound would properly heal and remain healed by primary union and without rupture. He had yesterday received a letter from one of the most distinguished ophthalmic surgeons in the United States, who stated that in thirty per cent. of his cases he had had prolapse, sometimes coming on some days after the operation without apparent cause, and that when men recorded cases without prolapse he simply doubted their statistics. With regard to Mr. Maxwell's point of ordering lenses two weeks or so after the operation, they should not be ordered until the eyes were white, not watering.

SECTION IN MEDICINE.

Meeting of Friday, February 28, 1890.

The President, Dr. Atthill, in the Chair.

The Influenza Epidemic of 1889-'90, as observed in Dublin.—Dr. J. W. Moore read a paper, in which he considered the effect produced on the public health and on the bills of mortality in Dublin by the epidemic, and described his impressions as to the origin, nature, and course of the disease.

The lessons to be learned from the epidemic might be stated in the form of propositions, as follows:

1. Influenza was an acute specific infective disease of the miasmatic rather than the miasmatic-contagious class. Its virus or contagium, when once introduced into the body, acted primarily and quickly on the nervous system, producing the phenomena of an acute pyrexia, with singularly rapid pulse.

2. The disease appeared to be *pandemic* rather than *epi-*

demic, affecting multitudes at one and the same moment, both by sea and land—a known fact, which suggested to Dr. Hilton Fagge the view that the organisms which gave rise to influenza, if organisms there be, could not undergo multiplication and development anywhere except in the air itself. The virus of influenza was then a miasma, or what the physicians of the sixteenth and seventeenth centuries called a "fouling of the air."[*] In this connection, Hirsch, of Berlin, pointed out that influenza had not spread more quickly in our own times, with their multiplied and perfected ways and means of communication, than in former decades or centuries.[†] The prevalence of the disease was absolutely independent of season and weather—a fact which distinguished influenza from epidemic bronchial catarrh.[‡]

3. If this miasmatic or pandemic view of the origin of influenza was correct, there was no need to seek for a period of incubation, the virus being already "hatched" at the time of its reception into the human system—that was, at the time of infection. In several, if not in most, cases there was an interval between the reception of the poison and the development of the symptoms. The most common duration of this interval seemed to be one or two days. But this pseudo-incubation period might be explained on the supposition that in certain individuals an intact condition of the mucous membranes might present an obstacle to the entrance of the virus into the blood, and so delay the development of the disease.

Of course, it was not denied that the morbific agent or virus was capable of adhering to the human body, or to clothes, or luggage, or letters, so as to be conveyed from one place to another (Hilton Fagge). "But," adds that writer, "its subsequent growth and development is, doubtless, altogether independent of this kind of assistance."

4. Very young children seemed to enjoy a certain immunity from influenza, or to have the disease in a mild form.

5. Adults suffered severely in many cases, the symptoms being chills, headache, often sleeplessness, sometimes delirium, pains in the eyeballs, nape of the neck, small of the back, knees, and along the margins of the ribs; loss of the special senses of smell, taste, and sometimes hearing; smarting of the eyes, photophobia, lacrymation, otalgia, complete loss of appetite, bad taste in the mouth, nausea, and perhaps vomiting; constipation, but occasionally diarrhœa; cough, frequent sweating, loss of strength, fainting. Of course, it was only a selection from these symptoms that was present in a given case.

6. Influenza, while infrequently directly fatal, caused an indirect loss of life which was appalling, chiefly through complications affecting the respiratory and, in advanced life, the circulatory systems.

7. Influenza was a perilous complication of pulmonary consumption.

8. Other complications of which the author had had experience were epistaxis (one case), facial neuralgia (several cases), profuse sweatings (several cases), skin rashes (four cases—three were examples of papular sweat rashes, with sudamina; one was an erythema fugax), herpetic eruptions (several cases), cystitis, followed by mild orchitis (one case).

In contrast to dengue fever, the speaker believed that influenza was a non-eruptive fever. When rashes did appear they were accidental rather than essential or specific, and they resulted from hyperpyrexia, or profuse sweating, or from the ingestion of such drugs as quinine, or antipyrine, or salicylate of sodium.

9. Influenza seemed to have the property of picking out the weak point in an individual's constitution. If the patient was neurotic, nervous and neuralgic symptoms were likely. Any old tendency to catarrh of either the respiratory or the digestive mucous membranes was at once intensified in the presence or in the wake of this strange malady.

10. The febrile movement in even uncomplicated influenza was, as Wunderlich would say, "polytypical," or "atypical."

11. Influenza showed a marked tendency to relapse, and to this was largely due the indirect fatality of the malady.

12. The treatment of the affection turned upon common-sense principles. It was expectant, palliative, and symptomatic. There was no specific for influenza, but the most useful drugs to employ in its treatment were (1) quinine, (2) antipyrine (except in young children and the weakly), (3) salicylate of sodium, especially in effervescence, (4) phenacetine, and (5) effervescing citrate of caffeine.

Influenza, or Dengue, as observed at Kells.—Dr. Ringwood read a paper on dengue fever, which, he stated, had been endemic in the neighborhood of Kells for the last five years, the disease having appeared soon after the return of our troops from Egypt. The character of the disease for the first six months was that of bilious relapsing fever of so virulent a type that six of the cases observed by him were exactly similar to the cases of yellow fever which occurred in Dublin in 1826, and were then described by Dr. Stokes and Dr. Graves.

He held that the present form of influenza was a very mild form of dengue, generally free from eruption. The limits of his paper prevented his referring to treatment, except to say that he had found the best results were obtained by the free use of pure salicine.

The President suggested, as questions for discussion, whether the disease which had been described by Dr. J. W. Moore was a specific and contagious disease, or, as was held by some, merely an ordinary inflammatory cold, very common at the present time; and also whether the cases described by Dr. Ringwood were of the same disease which prevailed in Dublin or of an entirely different and specific disease.

Dr. Finny did not think that Dr. Ringwood had thoroughly proved his point as to the identity of the disease in Kells with that in Dublin. Having seen the lady referred to, in consultation with Dr. Ringwood, he had to acknowledge that he had never met with a similar case. The variations of the fever presented remarkable phenomena, the temperature in the same day running from 99° in two hours up to 105° F., which was reached between eleven and twelve o'clock noon, and in the evening it was down to normal. The lungs were largely affected with patches of pneumonic complication. It was noteworthy that the lap-dog suffered too, having a discharge from the nose, as showing that the influenza affected the lower animals.

Dr. McSwiney had met with cases characterized by frequent desire to urinate in large quantity, somewhat as in hysteria; also by fainting, epistaxis, pain in the frontal sinuses, followed by a discharge of pus; and, in the recovery stage, by diaphoresis.

Dr. A. W. Foot said the term "influenza," whatever it meant, had been dragged in by the neck and shoulders as a *deus ex machina* to explain, in the case of the first paper, diseases with the old-fashioned names of "feverish cold," "heavy cold," as distinguished from "light," "rheumatic cold," or other forms of ordinary catarrh; and, in the case of Dr. Ringwood's paper, anomalous forms of eruptive fever. He had entered the room with but slight respect for influenza; yet when he heard cholera and yellow fever mentioned in the same breath all that was requisite to make him a perfect convert to its importance was to give it a spice of hydrophobia. But then there was the high death-rate from influenza recorded by the Registrar-General. Man, woman, and child, horse, dog, and cat had suffered, and the weary, over-worked dispensary doctor made the shortest diagnosis and put down "influenza." Hence the alarming statistics. He preferred to rely on observations in hospital practice rather than on those in private. Fagge was entirely against the miasmatic origin of influenza, using the word "miasmatic" as telluric. The prevalence of influenza in every climate, torrid and temperate, in every soil, dry and moist, in high elevations and lowlands, and in fleets on the ocean, showed that it had no miasmatic or telluric origin. As regarded treatment, he had not heard any recommendation of rum punch, which he had known to cure many cases.

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[*] Hirsch, *Handbook of Geographical and Historical Pathology*, vol. i, p. 34, New Syd. Soc., 1883.

[†] *Op. cit.*, p. 36.

[‡] Cf. Hirsch, *op. cit.*, p. 26.

Dr. C. J. NIXON said Dr. Foot's remarks implied a complete disbelief in the existence of influenza as an epidemic, especially occurring at the present time. He required proof where probability only was to be had. But there was one important fact that, according to the returns of the Registrar-General, in Paris the deaths for the last week of December, 1888, amounted to 955, while for the last week of last December the deaths were 2,374; and again, taking the first week of January, 1889, the deaths were 970, while in the first week of January of the present year the deaths were 2,683. There must surely be some very unusual conditions to produce such a striking increase in the death-rate.

Dr. J. BELLEW KELLY (Drogheda) felt disappointed at not having heard more as regarded treatment. He had learned nothing that had not been on record for centuries, especially in connection with the epidemics of 1510 and 1743, whatever the name of the disease, whether *la grippe*, influenza, or dengue. Every form of disease of a febrile type was liable to all sorts of complications. He had had three hundred cases, and in all these he had not treated one pregnant woman.

Dr. J. W. MOORE, in reply, said Dr. Foot had not correctly stated Dr. Hilton Fagge's view, which was that the organisms of influenza could not undergo multiplication and development anywhere except in the air itself; and that constituted the distinct theory of miasma; while Hirsch considered the virus of influenza was a miasma or fouling of the air. If influenza was not an epidemic, Dr. Foot had given no explanation of the excessive death-rate of January, 1890, which was certainly not due to the weather. The death-rate was opposed to all accepted theories of the influence of the weather. Indeed, in spite of the mild weather, the death-rate exceeded that which was incidental to the intense cold of January, 1881. His classification was nearly the same as Dr. Nixon's. He gave five classes—cardiac, pulmonary, gastric, febrile, rheumatoid, yet all of a febrile type. Dengue and influenza were absolutely and positively distinct. There was not a single case of dengue in Dublin or, he believed, elsewhere in Ireland. It was an accepted doctrine that dengue was a tropical or subtropical disease. No true case of yellow fever could possibly occur in Ireland, for under 70° F. was fatal to the disease. His theory of pseudo-incubation was, that the virus of the disease seemed to be hatched and multiplied in the open air, and then lodged on the persons of individuals, who acted as fomites of the disease. There was no evidence to show that the virus was multiplied and developed within the system.

NEW YORK CLINICAL SOCIETY.

Meeting of May 23, 1890.

The President, Dr. L. B. BANGS, in the Chair.

The Dosage and Administration of Creasote in Phthisis.—A paper on this subject was read by Dr. W. H. FLINT. (See page 85.)

Dr. BEVERLEY ROBINSON said that he was much gratified at the very complimentary manner in which Dr. Flint had referred to his paper on creasote as a remedy in phthisis pulmonalis. He was particularly glad to take part in this discussion, as he believed in creasote as a very useful remedy in this disease. Prior to using it in an accurate and extensive way, he had tried all the vaunted methods in treating phthisis. For some time lavage and gavage had inspired him with much confidence, and he had hoped that we might thus so improve the nutrition of phthisical patients that the *Bacillus tuberculosis* would ultimately be compelled to relinquish its hold. Certainly, patients often did gain considerably in weight, but the physical signs in the lungs remained stationary. He had also believed, during quite a period of time, in the marked beneficial effects resulting from intrapulmonary injections of different kinds. He had now practically abandoned them, as he had lost faith in them, except in a very limited number of cases. After reading Bouchard's paper when it was first published, he had commenced using creasote; but in the beginning he had only had faith in it as a good anticatarrhal agent, to be ranked in the same category with many similar drugs that were said to have a special effect in lessening bronchial inflammation.

Later on, and very soon after the first publications in regard to the useful effect of the drug appeared in Germany, he had taken up his observations on creasote with considerably more accuracy and attention to the smallest changes in signs and symptoms brought on by its use. The result had been to convince him of its great utility. Prior to using it he had become very skeptical as to the curative influence of drugs in this disease, and he had given cod-liver oil and the hypophosphites—particularly to hospital and dispensary patients—with great incredulity as to their beneficial effects. Now and for some time past his faith had returned in a measure. In his experience, creasote must be given in small doses and continued a long time if we wished to obtain really good effects from its use. It was possible that some patients might bear large doses well, but it was always a risk to insist upon them. He had always used creasote by the mouth or in inhalation, and had had no experience with the method of giving it by the rectum. He was not favorably disposed toward this other way of giving the drug. Creasote should be pure, well diluted, and perfectly dissolved, in order to prevent any possible danger of stomachal intolerance. The dose of a half to a minim should be given five or six times in twenty-four hours, and increased in amount very slowly. It should be continued for months at a time, and indeed so long as there was any indication for its use. Taken in this way, it would usually produce good, and at times remarkably good, effects. Sputa would diminish and disappear, nutrition was benefited, strength increased, and cough arrested. The local signs were sometimes much improved. He had known, in at least two cases, the bacilli to disappear entirely from the sputa, where they had previously been recognized. In several cases he believed he had seen his patients recover. Now, he could not say this of any hospital or dispensary patients thus affected whom he had formerly treated with cod-liver oil and the hypophosphites. Altogether, in his judgment, creasote was the best remedy we now were in possession of for the amelioration and possible cure of pulmonary phthisis. We must not, however, run risks of disgusting our patients with it by increasing the doses too rapidly. Above everything, we must preserve the digestive organs intact, and must not interfere with the assimilative process. If we did this, we lost immediately all the possible good effects from creasote, and took away from the patient one of his reliable chances of living. Whenever it could be carried out, he liked the combined method best—o inhalation and administration by the stomach. In this manner he was sure we should obtain our most welcome results. He would be glad if these expressed opinions should carry conviction, and make it almost obligatory for any one treating a case of phthisis to give creasote.

Dr. W. H. Katzenbach remarked that, for the last year or so, he had employed creasote in the treatment of phthisis in private practice, with results corresponding with those mentioned by Dr. Flint and Dr. Robinson. Under its administration, in a good proportion of cases, appetite and digestion had improved, cough and expectoration had subsided, fever abated, nutrition increased, and the patient gained in weight. A recent case would illustrate this. A young woman, aged twenty-three years, had consulted him early in March of the present year with signs of phthisis in the second stage, involving a considerable portion of the upper lobe of the right lung anteriorly. The physical signs were dullness, broncho-vesicular respiration, increased vocal resonance, and subcrepitant râles. Her temperature was 100·5° F., pulse 120, and respiration 32. Weight, one hundred and seven pounds. She was given creasote in conjunction with cod-liver oil and extract of malt. By the middle of March her appetite had improved and her cough had diminished. Menstruation, which had been suppressed, reappeared, and she felt stronger in every respect. By the latter part of April her temperature was 98·5° F., pulse 80, and respiration 24. The respiration over the affected lung was still broncho-vesicular, but the râles had disappeared. Her weight was one hundred and eleven pounds and five eighths.

In medicinal doses, Headland had said that creasote had "a double action, being anodyne, like hydrocyanic acid, and a mucous stimulant, like turpentine" (quoted by Stillé).

When its use was begun, creasote might increase cough and expectoration from its liquefying action on the sputa, but subsequently the secretion diminished or was arrested, and cough was relieved. In the late stages of phthisis, with cavities, high fever, copious expectoration, loss of appetite, and impaired digestion, the results had not been favorable. The following formula was the one commonly used:

℞ Creasoti (beechwood)..... .... ʒj;
Glycerin...........................ad ℥iij.

M. Sig.: Take half a teaspoonful after meals and at bedtime, with whisky, a half to a tablespoonful, and water two ounces.

Dr. W. G. Thompson said that it had been his fortune to succeed Dr. Flint several times in his hospital service, and he wished to add his testimony to the value of the results of the creasote treatment in many of Dr. Flint's cases of phthisis. He had used the drug extensively for a number of years, and was convinced that it was, upon the whole, the most useful remedy that we possessed for controlling many of the more urgent symptoms of phthisis, notably diminishing cough, expectoration, and dyspnœa, and favoring gain in nutrition. In cases fairly advanced, he believed in pushing the administration of the drug to the limit of toleration. This limit was considerably extended by taking great pains to secure a pure wood creasote, and to administer it in the careful manner described by Dr. Flint. The drug was of special value in that it might be given in several ways—by the mouth, by inhalation, or by the rectum. When the stomach showed signs of irritation from large doses of creasote, he had found it to be still very well borne when administered by the rectum in five-minim doses, in emulsion, or by inhalation. If the inhalers worn were not deep enough, excoriation might result, and he mentioned three cases in which he had seen severe ulceration of the nose and chin from the careless use of inhalers with creasote. Notwithstanding the results of experiments upon animals, alluded to by Dr. Flint, the speaker thought that we were still completely in doubt as to the mode of action of the drug in phthisis. In man there were some fourteen pounds of blood, in which any so-called "antiseptic" remedy must inevitably be diluted when absorbed, and it was easier for him to believe that creasote might act by altering in some manner the tissues or "soil" in which the tubercle bacilli grew, or by improving bodily nutrition, than to admit that its influence was in any way germicidal, even when inhaled. In the latter case it was difficult to prove how deeply it diffused into the lungs, or that it ever came in direct contact with many foci of bacilli.

Reports on the Progress of Medicine.

GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

Contribution to the Subject of Fibromata of the Uterus (Walton, *Arch. de tocol.*, December, 1889).—The object of this paper is principally to indicate the line of conduct which is proper for the general practitioner in meeting the ordinary difficulties which are associated with uterine fibromata. Radical treatment is not believed in for such conditions so long as conservative treatment is suitable. The following propositions are submitted:

1. With fibromata which completely fill the uterine cavity, rapid dilatation will enable one to make a diagnosis, and facilitate an operation if the latter is indicated.
2. Ablation of the neoplasm will check the hæmorrhage, even though a second growth is developing in the uterine wall.
3. Forced dilatation may, of itself, rupture the capsule of a submucous fibro-myoma, the spontaneous enucleation of which may follow.
4. Forced dilatation combined with curetting will always arrest hæmorrhage from fibromata which are not attackable *per vaginam*.
5. Forced dilatation by facilitating the return circulation may lead to involution, to diminution, and to clinical disappearance of the tumor.
6. The suppression of hæmorrhage and of compression symptoms, the absence of pain and of all disturbance, constitute a cure clinically.
7. The best means for overcoming the fœtid condition of the leucorrhœal discharge attending these tumors, and so of avoiding auto-infection, is to dilate freely the uterine cavity and disinfect it.

Concerning Gastric Affections in Connection with Diseases of the Female Genital Organs (Rosenthal, *Ctrlbl. f. Gyn.*, Nov. 30, 1889).—The author disagrees with Hegar, Engelhardt, and others who look upon the nervous disorders connected with gastric affections as spinal-cord symptoms, and seeks to find their explanation in an irritation of certain roots and plexuses, including the ischiadic and crural and also the root areas of the cauda equina. Neuritis of the nerve-roots with severe symptoms is a rare occurrence. Those forms of digestive disorder which have a reflex relation with disease of the uterus and its annexa usually appear as dyspepsia, cardialgia, and vomiting. Two different types of digestive disorder may be distinguished. In that form which is characterized by cardialgia, vomiting, and pneumatosis, there is superacidity as the result of the gastric irritation; in the other form there is insufficiency of hydrochloric acid, indicating gastric exhaustion. In the first form the condition of the urine is of especial importance. To be rational in one's treatment of these cases they should be carefully distinguished from those in which there is a deficiency of acid. In the first the author prescribes Carlsbad water, borax, or a mixture of carbonate of potassium and bismuth; also large doses of bromide of potassium morning and evening, and in some cases hydrotherapy. In the second form large doses of hydrochloric acid are indicated, perhaps with the addition of pepsin.

The Electrical Treatment of Uterine Fibromata (Apostoli, *Concours*, Nov. 9, 1889).—The electrical treatment of fibroid tumors of the uterus which was devised by Apostoli in 1882 was recently discussed before the Paris Society of Surgery in connection with a method which purports to have superiority over all others in that it is new, and that it rests upon the use of currents of moderate intensity, upon intra-uterine action, and upon frequent changes of the current.

Apostoli opposes these pretensions as follows:

1. This method, devised by Championnière and Danion, is not new, and is only the reproduction of old methods which have been tried and, in part, abandoned.

Apostoli claims priority and originality in the use of all medical electric currents exceeding fifty milliampères. For two years he used no current exceeding seventy milliampères, but subsequently he found it safe and advisable to use stronger ones, the intensity being moderated according to the uterine or circumuterine intolerance, and increased in complicated forms of endometritis or in severe hæmorrhage.

Aimé Martin and Chéron discovered in 1879 the extra-uterine action of the current, and defined its action upon the cervix and the vagina; they were also the first to use interruptions and reversions of the galvanic current. Benedikt also used reversions of the current prior to Championnière and Danion.

2. This method is inferior to that of Apostoli, because its authors still continue as surgeons to substitute for it, in certain cases, castration and hysterectomy; because they use it upon old or slightly sick women, and operate upon the younger ones; because the method is only vaginal and extra-uterine, thus omitting to cure a concomitant endometritis; because recurrences constantly occur unless they continue to use the treatment; because they do not profess that peripheral inflammatory exudates disappear; because their use of sodium-chloride solutions shows that they do not regard their method as reliable; because they have not demonstrated anatomical reductions in the tumors treated.

The experience of Championnière and Danion rests upon seven months' trial in eleven cases, while Apostoli has tried his seven years, many thousands of cases having been treated.

Apostoli asserts that his method is inoffensive and supportable if one confines himself to the rules which he (Apostoli) has prescribed. His method is the most efficient:

1. Because it is a sufficient method, and in most cases can supplant surgery in the treatment of fibromata.

2. Because it does not select its cases, and benefits young and old.

3. Because it makes use of vaginal galvano-puncture, either by itself or in connection with the intra-uterine action which relieves lesions of the endometrium.

4. Because failure with it is exceptional with simple fibroid tumors—that is, with those which are not fibro-cystic, which are not complicated with ascites, and which have no peripheral lesions of the annexa.

5. Because with this method recurrence is exceptional, most of the results being permanent after treatment has been sufficiently prolonged.

6. Because it includes in its sphere of action under formulæ of different intensity and localization the treatment of fibromata, endometritis, metritis, and many cases of oophoro-salpingitis.

7. Because it can dispense with the use of all additional methods of treatment.

8. Because it produces anatomical reduction of the tumor to a greater or less extent.

At a meeting of the Paris Surgical Society (*Concours*, Mar. 15, 1890), Lucas-Championnière spoke concerning the electrical treatment of fibroid tumors. He uses a method to which Apostoli's name is attached, but in a different manner from Apostoli, inasmuch as he penetrates neither the uterine tissue nor the uterine cavity with the electrode. An electrical tampon is placed against the vaginal portion of the cervix, and the current is reversed from time to time. The intensity of the current used does not exceed 80 to 120 milliampères. In all cases this treatment has been well tolerated, and causes a disappearance of the feeling of heaviness, the hæmorrhage, and the pain; it also causes diminution in the volume of the tumor. Such results have often been seen in women forty to forty-five years old, but in some cases the disease has been very rebellious to treatment.

Le Dentu called attention to a rare form of fibroma in the abdominal wall of a woman upon whom he performed ovariotomy in 1888. The following year an enlargement appeared at the site of the cicatrix, and this proved to be a tumor as large as a good-sized nut which was adherent to the deeper portions of the skin and abdominal wall. It was easily removed, and the author thinks it was not a keloid growth but a neoplasm of a fibrous character which started from the cicatricial tissue.

Alexander's Operation.—At the same meeting (*ibid.*) Lagrange called attention to a patient upon whom he had performed Alexander's operation for backward displacement of the uterus. The operation was done in May, 1889, and had resulted in the disappearance of the symptoms which were present prior to the operation. No pessary had been used since the performance of the operation, and the uterus remained in good position.

Terrillon said that the fixation of the ligaments to the pillars of the inguinal ring was sometimes inconstant, and that it was better to use a pessary for several months after the performance of the operation.

Trélat thought that one could say within a month after the performance of Alexander's operation whether the success would be permanent or not. Failure is sometimes due to rupture of the thin and tense fibers of the shortened ligament. In performing the operation, he thinks that sections 10 or 12 centimetres long should be removed from each ligament.

Bouilly believed that success or failure in Alexander's operation depended largely upon the condition of the pelvic floor, which under certain circumstances played a very important *rôle* in the reproduction of retroflexion. In some women one can succeed in maintaining the uterus in its proper position after Alexander's operation only by supplementing that operation by the performance of perinæorrhaphy or colporrhaphy.

Electrotherapy in Slavjansky's Clinic (Massen, *An. de Obst., Ginecop. y Ped.*, February, 1890).—The battery which was used by the author was one of Gaiffe's with thirty-six cells, the latter being the modified Leclanché containing a solution of peroxide of manganese and chloride of zinc. He also used a smaller battery containing twenty-four cells containing the bisulphate-of-mercury solution. All antiseptic precautions were used in administering the treatment, not only the instruments being disinfected, but also the genitals of the patient. The uterine sound was introduced through a vaginal speculum, this being contrary to the custom of Apostoli. At the beginning of a course of treatment the current should not be passed for more than five or six minutes; subsequently it may be used eight or ten minutes. Ten minutes should be the maximum time for the treatment of interstitial fibro-myomata. The intensity of the current should not exceed 50 milliampères at first, and this may be gradually increased in subsequent séances to 120 milliampères for inflammatory conditions, and 250 or more for fibro-myomata. To measure the intensity of the current, Gaiffe's horizontal galvanometer is recommended, while the resistance should be regulated by a rheostat, 200 ohms being a suitable resistance with currents of moderate intensity, while with those currents of 250 milliampères or more the resistance should not exceed 7 ohms. Inflammatory products do not perceptibly increase the resistance, but with fibro-myomata the resistance is decidedly augmented. The author agrees with Apostoli in affirming the hæmostatic action of the positive pole. Ordinarily the treatment may be given once in five days, but with fibro-myomata which are not very sensitive it may be given more frequently. If the treatment is external the patient should rest for an hour after receiving it and then attend to her ordinary duties, but in the treatment of fibro-myomata it is better that she should rest for the remainder of the day. The passage of the current does not usually produce much pain, and anæsthesia is therefore unnecessary. There may be smarting upon the abdomen similar to that which is produced by a sinapism; there may also be a feeling of compression in the uterus, and at times a dragging sensation about the waist. The feeling may be more intense if there is a focus of recent inflammation. If the negative pole has been used, there may be contractile pains like those of parturition two or three hours after the séance is concluded. Usually there is no pain at night and the patients can sleep quietly. At the beginning of a course of treatment there may be a moderate leucorrhœal discharg mingled with blood. All other treatment should be suspended whil electrotherapy is being used, except the use of vaginal douches. Durin a period of five months and a half the author treated twenty cases o fibro-myoma, twenty-two of metritis and endometritis, and seventy o disease of the uterine appendages and the broad ligaments. There wer also three cases of amenorrhœa and one of hystero-epilepsy. In thirty-four cases a cure was effected, in eight there was no change perceptible, and in three the patients became worse. The author has formulated his conclusions as follows:

1. Apostoli's method merits the attention and sympathy of gynæcologists.

2. It represents one of the bases of conservative gynæcology, and has an assured future.

3. It is still in its initial period, and, like all electrotherapy, rests upon experimentation.

4. In the treatment of fibroid tumors it relieves pain and hæmorrhage, and restores the normal function of the uterus. Subsequently the tumor becomes movable as the result of absorption of inflammatory matter, and finally there is reduction of the neoplasm.

5. It offers perfect results for hæmorrhagic endometritis, and is a successful rival to the operation of curetting the uterine mucous membrane.

6. Before castration is performed the electrical treatment should receive a trial.

Irrigation of the Peritonæum (Delbet, *Ann. de gyn.*, September, 1889).—The author has made experiments with the view of ascertaining whether irrigation is really a good way of cleansing the peritonæum, and whether it may not cause, in a reflex manner, cardiac or respiratory syncope. The liquid which is poured into the peritoneal cavity is diffused throughout it, and this is an advantage if one is operating for general peritonitis, or in cases in which the contents of a ruptured intestine or an abscess have been poured upon the peritonæum; but if the object is simply to remove pus which has leaked into Douglas's *cul-de-sac* from a tube which has been torn in the course of its removal, irrigation may force the pus into or upon parts which were not previously soiled. Hence the body of the patient should be elevated during the process of irrigation and the intestines retained *in situ* by means of sponges. In many cases it will be almost impossible to remove all matter from the peritoneal cavity which enters it, and it will usually suffice to remove the greater portion of it. Irrigation of the cavity with fluid at a temperature of 48° to 50° C. will usually have no influence upon the temperature and respiration. It is usually better to have the temperature at 38° or 39° C., which is about the temperature of the body. The hæmostatic action of fluids at very high temperatures is doubtful. The quantity of liquid absorbed during the first few minutes of irrigation is considerable. If a 7-to-1,000 solution of chloride of sodium is used, the effect is that of indirect transfusion. A prolonged operation or excessive loss of blood would be an indication for irrigation with such a solution, even if the peritonæum did not require cleansing. This facility of absorption may constitute a source of danger if the cavity contains pus or fæcal matter, for they may contain soluble poisons which might be absorbed to the disadvantage of the patient. Pus or fæcal matter should be removed as far as possible with sponges before beginning the irrigation. The peritonæum may be irrigated with toxic solutions without danger of intoxication if a preliminary irrigation of the weak saline solution be used for ten minutes, and the irrigation with the toxic fluid be followed by another irrigation with the saline solution to wash away the excess of the former. The following are the indications for antiseptic irrigation of the peritonæum:

1. The diffusion of septic matter in the cavity in the course of a laparotomy.

2. Penetration of pus or fæcal matter into the peritoneal cavity prior to an operation.

3. Septic peritonitis.

4. Possibly peritoneal tuberculosis.

Ligature of the Uterine Arteries (Gubaroff, *Prog. Gin.*, Aug. 10, 1889).—The author has tried upon the cadaver a new method for ligating the uterine arteries, and Sneguireff has successfully performed the same operation upon the living subject. It consists in the intraperitoneal ligation of the nutrient vessels of the uterus, the uterine, the utero-ovarian, and the artery of the round ligament, the anastomoses which these vessels make with their vaginal branches being preserved to prevent necrosis of the uterus. The operation consists in a cutaneous incision, the same as for the ligation of the common iliac or the external iliac, the tendinous portion of the transversalis abdominis muscle being avoided. The lower extremity of the incision should reach the external inguinal ring. After dividing the three muscular layers of the abdominal wall and the transverse aponeurosis, the peritoneal sac of the iliac fossa is reached, and then, following the internal border of the psoas major, the point of division of the common iliac artery. Then the tissues may be retracted with a Sims speculum and the iliac artery followed until one reaches the emergence of the uterine artery, in front of which the ureter may be seen passing. The utero-ovarian or spermatic artery may also be readily seen at the bottom of the cavity and ligated. The latter vessel is accompanied by its veins and should be separated from them before ligation. The artery of the round ligament may either be ligated alone or in conjunction with the structure which it nourishes. The latter vessel proceeds from the inferior epigastric, and, as it is not always easy to separate it from the round ligament, it may be preferable to ligate the inferior epigastric. The ligation of the nutrient arteries of the uterus is indicated—

1. In inoperable cases of cancer of the uterus with profuse metrorrhagia.

2. In intraligamentous tumors and subserous myomata, in which cases ligature of the uterine arteries should precede intraperitoneal operations.

3. In cases of metrorrhagia, independent of appreciable anatomical lesion, which have resisted the use of the ordinary hæmostatics.

New Operative Procedure for reaching the Organs of the Pelvis by way of the Perinæum (Zuckerkandl, *ibid.*, Aug. 10, 1889).—The author has devised a method of procedure which enables one with more ease than any other, it is claimed, to expose the pelvic organs—namely, the rectum, sigmoid flexure, uterus and annexa, prostate gland, vesiculæ seminales, and posterior wall of the bladder—through the soft parts which constitute the perinæum. The principle upon which this new procedure is based is the following: If in the perineal region a flap is cut with three sides (⊓), the horizontal portion of which is situated three centimetres anterior to the anus with the lateral incisions diverging toward the sacral region, and if, after separating the external sphincter, the recto-prostatic cellular tissue is penetrated, and then the recto-vesical tissue in the male or the recto-vaginal tissue in the female, the insertion of the levator ani muscle in the rectum is released, the anterior wall of the rectum will appear, and then the fold of peritonæum which lies at the bottom of the excavation. The rectum being drawn downward, the peritoneal fold may also be drawn down toward the skin. The latter being opened, one has ready access, in the female, to the uterus, the tubes, the ovaries, and the broad ligaments. The application of this procedure to the operations which are performed upon the uterus offers the following advantages: First of all, the uterus is more accessible by this procedure. By the division of the fibers of the levator ani, the rectum may be displaced and access to the uterus obtained which exceeds in facility for execution that which is obtained by way of the vagina. Both the uterus and its annexa are made readily accessible by this step. The broad ligaments with the uterine arteries are readily ligated, which is not always the case when one operates through the vagina. There need be no fear of ligating the ureters. The entire genital tract can be readily inspected, and one can proceed to a more radical extirpation of the internal genitals than by other methods. Asepsis of the entire operative field can also be more readily accomplished.

Results obtained by the Total Extirpation of the Uterus (Kaltenbach, *Jour. de méd.*, Jan. 12, 1890).—Kaltenbach reports fifty-seven cases in which he has removed the entire uterus, the indication being carcinoma in fifty-three, sarcoma in two, and prolapse in two. He finds that the operation is always indicated for carcinoma when it can be easily performed, and he hopes in suitable cases to obtain complete cure. Theoretically, partial extirpation may be excellent and sufficient, but practically it is rarely indicated. In one of his cases a partial extirpation was performed upon a woman who was seven months pregnant, a carcinomatous node as large as a nut being found upon the anterior lip of the cervix. A wedge-shaped excision was made and the pregnancy pursued its normal course. In general, the author thinks that all operations for cancer should be extended beyond the vaginal insertion, total extirpation being preferable apart from its offering greater chance of immunity from recurrence of the disease. Only two of Kaltenbach's patients died from the operation, one being from uræmia after ligation of the left ureter and wounding of the bladder. In two cases it was subsequently necessary to perform kolpokleisis on account of vesico-vaginal fistula. In three of the cases the patients were more than sixty years of age. Great stress is laid upon the importance of suturing the peritonæum and disinfection with salicylic and boric acids. In twenty-five of the cases of carcinoma a year passed without recurrence of the disease. Recovery from the operation was rapid. If the disease recurred, the thermo-cautery and chloride of zinc were used. In no operation was there severe hæmorrhage. In one case a cancerous fistula of the bladder was cured.

Curetting for Endometritis (Bouilly, *Jour. de méd.*, March 9, 1890).—The author gives the results of seventy-five cases in which he has performed curetting since 1887. He refers particularly to simple cases—that is, those which are not complicated by the presence of polypi or myomata; but he also refers to cases in which there may be a certain amount of disease of the annexa. In all of these cases curetting had been preceded by other treatment. The principal indications for the operation were hæmorrhage, leucorrhœa, and pelvic or sacral pain before or during menstruation. Pain alone, however, is not to be considered a sufficient indication. In twelve cases the operation was done without an anæsthetic, but such a plan is not to be recommended, on account of the pain which accompanies it. The operation should be preceded by dilatation, and the author used laminaria tents for this purpose, using at first a small one for twenty-four hours, and then a large one for twenty-four hours longer. There is little pain attending such dilatation. Next, the vagina should be irrigated, the uterus drawn down, and the endometrium curetted. The curetting is followed by an injection of tincture of iodine, or of carbolized glycerin, if the metritis is muco-purulent in character, and by a chloride-of-zinc application if it is hæmorrhagic. For the first few subsequent days the vagina is closed with a tampon of antiseptic material. The immediate results of these operations were: No accidents; absolute freedom from bad conditions. In many cases the pelvic or abdominal pain disappeared at once. In many other cases the best results were not obtained at once. In sixty-nine of the author's cases the histories were followed up for some time, and these cases were classified as cures thirty-nine, improvement fifteen, failure fifteen. In hæmorrhagic metritis the cures were especially frequent, and included nineteen cases. There were twenty cases of muco-purulent endometritis which were cured, the annexa in three of the cases being rather painful prior to the operation. With such a complication, it was found that the abdominal pain disappeared very slowly. The author has concluded that, if tubal disease really exists, no benefit need be expected from curetting. The cases which were tabulated as improved included those in which one or several of the symptoms disappeared. Of the fifteen unsuccessful cases, four were cases of hæmorrhagic and eleven of muco-purulent metritis. Curetting is indicated in chronic simple endometritis, and in the hæmorrhagic form it is a most valuable resource. It is less valuable in cases of cervical glandular disease, and is entirely uncertain if there is any disease of the annexa.

The Surgical Treatment of Backward Uterine Deviations (Richelot, *Jour. de méd.*, Dec. 8, 1889).—In the treatment one must take into consideration the faulty attitude of the organ, the accompanying lesion of the uterus (metritis) and the lesion of the annexa (salpingo-oophoritis), and pelvic adhesions. In retroversion with adhesions the prognosis is that of salpingo-oophoritis. Slow or rapid rupture of the adhesions, uterine massage, and Alexander's operation should be considered out of the question. The only suitable treatment is that which takes cognizance of the diseased annexa, the faulty position of the uterus being of secondary consideration. Palliative means may be used for the accompanying perimetritis at its beginning, but, if the lesions are rebellious and progressive, laparotomy should be performed and the tubes and ovaries removed. Removal of the diseased annexa and rupture of the adhesions will suffice for a cure without resorting to hysteropexia. In other words, the therapeutics of complicated retroversion is that of the diseases of the annexa and of the pelvic peritonæum. If the retroverted uterus is mobile, it will sometimes suffice to relieve the pain which is caused by the metritis. In other cases pessaries may be used, the round ligaments shortened, or hysteropexy performed. Neither of these methods is certain to produce a cure. Nicoletis has suggested for this condition subvaginal amputation of the cervix, circular incision through the fornices, disengaging the cellular tissue around the inferior segment of the organ, laying bare the posterior *cul-de-sac* of the peritonæum, and securing it by sutures to the straightened uterus. The stump is then secured to the posterior vaginal wall in such a way that the fundus is thrown forward.

The Castration of Women (Tissier, *Jour. de méd.*, Feb. 9, 1890).—This operation was suggested by both Hegar and Battey at about the same time, the object being to produce the menopause prematurely in certain pathological conditions. Thus defined, the operation has an entirely different field from those which are performed for the removal of extensively diseased ovaries and tubes. As is well known, castration of women was practiced ages ago, but not until 1872 did it become an operation of election in and for pathological states. Some of the indications for the operation are troublesome uterine myomata, uncontrollable uterine hæmorrhage, certain conditions of atresia of the genitals, and certain forms of contraction of the pelvis. It is justifiable in certain cases of dysmenorrhœa in which all other forms of treatment have failed to make life less of a burden. The operation is indefensible for neuropathic or disturbed mental conditions, dangerous and inexcusable for the relief of pelvic peritonitis, and criminal for nymphomania. Formerly the incision into the abdominal cavity was made through the vagina, but now the median line of the abdominal wall is universally chosen. Practiced with careful antiseptic precautions, this operation has the minimum of gravity, and Tait has been able to do almost a thousand cases without accident. The menopause results if the ovaries are completely removed, and this result may take place at once or after a few months. In order that there may be an indication for the operation, it is necessary that the trouble to be relieved should have definite relations to the menstrual function, that the age for the natural menopause should not have been passed nor be imminent. It is also necessary that one should first make fair trial of other and less dangerous methods of treatment, and be fairly satisfied of their inutility before proposing castration. This should include in the case of uterine myomata the use of the positive intra-uterine galvanic current, but not the galvano-puncture, which is not useful and is dangerous. For cases in which the hæmorrhage is severe this treatment should be preferred to castration, being fully as effective and less dangerous. Castration is indicated for those tumors in which very rapid growth produces conditions which are constantly and increasingly dangerous.

The Treatment of Endometritis with Chloride of Zinc (Moret, *Jour. de méd.*, Feb. 9, 1890).—1. The vaginal and uterine canal should be cleansed with a solution of sublimate.

2. The cervico-uterine canal should be sounded with a smooth, flexible bougie, which is better for this purpose than the uterine sound, for it is likely to wound the mucous membrane.

3. The bougie having been withdrawn, its curve is to be noted, and then one should introduce a pencil composed of three parts of rye flour and one of chloride of zinc. The pencil should be four to six millimetres in thickness, and should penetrate as far as the fundus.

4. The posterior vaginal *cul-de-sac* should be tamponed with absorbent cotton impregnated with iodoform, and the remainder of the vagina with ordinary non-absorbent cotton.

This treatment may be followed by pain, slight fever, and possibly by transient retention of the urine. In ten or twelve days the slough produced by the caustic will be discharged. After its expulsion the uterine cavity should be dilated with a No. 15 bougie, and the size should gradually be increased to 21 to avoid contraction and dysmenorrhœal pain. During the following month irrigation should be practiced daily with sublimate solution.

A Comparative Estimate of Tait's Method for Perineal Repair (Ott, *Ann. de Obst., Ginecop. y Ped.*, February, 1890).—The Simon-Hegar method for restoring the perinæum is based upon the anatomical conditions of the parts and may be termed the normal method. All the modifications of this method proposed by different authors consist mainly in two particulars: 1st, modification of the shape of the denuded surface; 2d, the manner of maintaining the denuded portions in contact until cicatrization is effected. As to the shape of the denuded surface, the author thinks it should be in each case to the form of the lesion and the direction of the tear; in other words, that it is impossible to lay down a general rule for operation which would apply in all cases. As to the suturing, he prefers an interrupted suture of silk, using a double row of them. Silk is preferred to catgut, as it is light, easily disinfected, and more durable than catgut. Interrupted sutures enable one to avoid the propagation of infection should suppuration appear at one point, and they are more favorable to union of the tissues, which is a matter of great importance, especially if there is rupture of the intestine. In the complete ruptures the author does not include the intestinal mucous membrane in his suture, and takes up only a relatively small portion of tissue. Successive rows of sutures are passed, and in this way a perinæum is built up which is difficult to distinguish from the normal body.

Tait's method is believed to be contrary to normal anatomical conditions, and hence the advantages claimed for it of simplicity and rapidity of execution have no real value.

Miscellany.

Native Midwifery in Canton.—Dr. Mary W. Niles writes as follows in the *China Medical Missionary Journal* for June:

During a seven years' residence in Canton I have gained an insight into the customs and practices of the Cantonese at childbirth—experiences not confined to any one class, but acquired in the houses of the learned and wealthy as well as in sampans and hovels. Superstition reigns supreme. The woman is placed in a sitting posture over a tub, and constantly urged from the first to bear down. In the case of a primipara, she may thus be deprived of rest and food for several days. Often exhaustion and uterine inertia arise from no other cause. The midwife is constantly shouting that the child is just ready to be born. She spends her time stretching the vulvar orifice. This may be advantageous when her statements are true, but when maintained for hours by relays of midwives, it causes, to say the least, excessive swelling. If there is any delay, the patient is kept in an excited state of mind by neighbors calling and advising this and that, by constant invocations to Kun Yam to save, by burning incense, and drinking tea sent by the idols. A sword and fish-net are laid upon the bed, to drive away the evil spirits. There are also many other idolatrous practices.

The fee to the common classes is $1 for a girl and $2 for a boy; to the poorest class 50 cents for a girl and $1 for a boy.

The midwife has some nice tricks of her own to increase her fee. She works upon the overwrought mind of the patient by causing her to believe there is some difficulty in the birth that *she* can only overcome, and, unless she has more money, will not stay. The more terror she can inspire, the more gain she expects. I must, however, say that all midwives are not so unscrupulous. I am acquainted with at least four who, with all their faults, have gained great favor in my eyes by always sending for *me* when they get into difficulty. It therefore does not behoove me to speak ill of those who sound my praises to their patients and enjoin a strict observance of my orders—to my face, at least. To proceed, immediately after the placenta is delivered the patient is placed upon the bed and compelled to sit erect. If she can bear it, this is very favorable to the expulsion of clots, etc.; if she can not, some one must assist her. Again, if she becomes faint, it is all the more important she should be held upright. A few months ago I witnessed the efforts made to revive a woman in a condition of syncope after childbirth. I had been called to the case, as one of difficult labor. But when I arrived, the child and placenta were already delivered. The woman was in the usual position. Perceiving that she was not in a condition to endure very much, I requested her to lie down.

When I myself have assisted at labors, my instructions are generally carried out—at least while I am present.

There seems to be a superstition that if there has been foreign interference some dire results may follow disobedience to orders. Once, when I had but left a few moments, a messenger ran after me beseeching me to return, as the patient had fainted. I hastened back and beheld a scene. The very small room occupied by the patient was filled with people. The one window and the two doors were shut. The room was filled with smoke from fire-crackers and the burning of a varnished umbrella. A lighted furnace was also in the room. Besides the noise made by the crackers, all were screaming at the top of their voices, calling to the woman's spirit to return. She was supported by the husband and midwife—one behind, the other before. They had their arms tightly around her, excluding almost every breath of air. A third assisted in holding her head up by keeping a tight grip upon her hair. Finding my voice could not be heard in this tumult, I struck out right and left, and soon made the attendants aware of my firm intention to make them let go their hold, even if it had to be done by force. As soon as she was in a horizontal position she revived. But, before I was aware of it, my efforts were seconded by holding over her face a large Chinese iron cooking vessel, heated for the purpose. Of course this was instantly removed. Immediately after a patient has been placed upon the bed the custom is to give a large bolus containing some very acrid substances, mixed with the juice of fresh ginger, followed by a bowl of rice and salted duck-eggs. The pill and ginger is continued to the second and third day, and afterward "ginger vinegar" is given with the rice throughout the whole of the puerperal month, a large jar of this being always prepared before the birth of the child.

Much importance is attached to the "ginger vinegar," and it is the gravest question as to whether the patient will be allowed to take it. If at the time permission is not given, a day must be set apart when it can be taken. Friends come to me a number of times during the month to know if the "ginger vinegar" may now be given. Some drink a cup of child's urine every day for three days. Having witnessed these pernicious practices, I was surprised, while reading a Chinese book on midwifery, to see how many of them were condemned, and what sensible advice it contained, and given by people, too, who are ignorant of the very mechanism of parturition. I understand the pamphlet in question to be considered an authority. I know not why the educated forego its advice, to follow the superstitious practices of ignorant old women. The book . . . is probably the treatise on midwifery translated by Dr. Lochart. It was fully translated by Dr. Kerr thirty years ago. The Practice of Obstetrics among the Chinese, written by Robert P. Harris, M. D., of Philadelphia, and published in the *American Journal of Obstetrics and Diseases of Women and Children*, July, 1881, drew its information and made extensive quotations from Dr. Kerr's translation. The book evinces the greatest ignorance of the facts of gestation, the mechanism of labor, and the causes of difficulty in the delivery of the fœtus and secundines; yet its mission "to restrain the activity of the midwife, and to educate the people, that she is not in any manner to assist in the delivery of the fœtus," is most laudable.

I will make some extracts, which would be really helpful if native midwives would follow their advice:

"There are three important principles to be borne in mind: 1. Lie down. 2. Endure the pain. 3. Be slow about the delivery. If these rules were obeyed, at least three fourths of the difficulties I have met would have been avoided. The first pains are in the abdomen. The woman should have her mind made up to this as necessary, and not to be feared. If the pains do not increase in severity, she need not inform any one of them, but lie still and be at peace. The foundation of all difficulty lies in sitting over the tub . . . when the pains are but slight."

"When the pains are beginning, the woman should eat and sleep as usual."

"The rapidity of the pains will show the course of the labor. It is most important not to consider the tub and the straw very early, and hence bear down and put pressure upon the abdomen. The body should be kept straight, neither in lying or standing should it deviate to one side."

"The woman should take matters into her own hands, and not allow herself to be governed by others, such as midwives or meddlesome neighbors. This matter is of the greatest importance to herself. She must nourish, and not waste, her strength."

"It is the best plan to go to bed and lie there with eyes closed. If wearied with lying, rise and walk about with the support of friends, and then return to the bed. The woman should lie upon her back. After prolonged efforts at expulsion, the strength of the fœtus is exhausted, and when the proper time for birth arrives there is no strength for delivery." (Write "mother" instead of "fœtus" and the remark is correct.) "In a case in which the arm or foot presents, direct the woman to lie down. Gently push up the arm or foot. Have her remain quiet for one night, and delivery will be accomplished normally." The author gives a case of shoulder presentation, where he replaced the arm, and the child was born normally the next day. We know that spontaneous evolution or spontaneous version might take place. Last year Dr. Kerr replaced the arm, when spontaneous version took place and the vertex became the presenting part. Certainly the recumbent position and quietness would be most favorable to spontaneous version, and would tend to delay impaction and exhaustion.

"The doubter says, 'Shall we not have a midwife?' Yes, but remember the midwife is *your* servant, and you not *hers*. Midwives are stupid, not acquainted with the doctrines."

"Late, or early, they call upon the patient to exert her strength. They rub the back, and push down upon the abdomen, and call out, 'The head is here.' They pass the hand into the vagina and do injury. All this as though they, and they only, were responsible for the whole matter. Her duty is simply to pick up the baby."

"After the birth it is not necessary to take any medicine. The pill of . . . (rats' kidneys and rabbits' brains) injures the spirits and destroys the blood when the patient is in the weakest condition and least able to bear it. The . . . is very unwise to take, as it impoverishes the blood and gives puerperal fever."

"The diet should be good, but not fat; chicken or duck broth, from which the fat has been removed. No one should be allowed to visit the room. All should be very quiet. Do not pray to the idols in presence of the patient. Let only one midwife be present, and let her sit at one side, not allowing her to interfere with the course of events. If cold, have a fire in the room. If hot, have a pail of cold water to absorb the hot air."

These extracts indicate common sense in the management of labor, and would, no doubt, have greater influence if it were not for the superstitions which are so universally prevalent.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for July 18th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	July 12.	1,632,798	1,157	..	..	..	..	..	..	6	5	21	25	14
Chicago, Ill.	July 12.	1,000,000	443	..	..	..	..	..	..	19	1	6	..	6
Philadelphia, Pa.	July 5.	1,064,277	623	..	..	..	..	..	..	13	1	8	..	4
Baltimore, Md.	July 12.	500,343	260	..	..	..	..	..	..	10	2	3	2	2
St. Louis, Mo.	July 5.	450,000	312	..	..	..	..	..	..	4	..	3	..	1
Boston, Mass.	July 12.	420,000	194	..	..	..	..	..	..	1	..	6	1	3
Washington, D. C.	July 12.	250,000	101	..	..	..	..	..	..	6	..	..	..	1
Detroit, Mich.	July 5.	230,000	82	..	..	..	..	..	..	..	2	5	..	....
Milwaukee, Wis.	July 12.	210,000	....	..	..	..	..	..	..	2	..	4	..	1
Minneapolis, Minn.	July 5.	200,000	55	..	..	..	..	..	..	..	..	..	1	....
Kansas City, Mo.	July 5.	180,000	61	..	..	..	..	..	..	..	1	..	..	....
Providence, R. I.	July 12.	130,000	55	..	..	..	..	..	..	..	..	..	..	....
Indianapolis, Ind.	July 11.	129,360	47	..	..	..	..	..	..	..	..	1	..	....
Richmond, Va.	July 5.	100,000	56	..	..	..	..	..	..	2	..	..	..	2
Toledo, Ohio	July 11.	92,000	33	..	..	..	..	..	..	1	..	2	..	....
Fall River, Mass.	July 12.	69,000	56	..	..	..	..	..	..	..	..	1	..	1
Nashville, Tenn.	July 12.	68,531	34	..	..	..	..	..	..	1	..	..	..	2
Charleston, S. C.	July 12.	60,145	35	..	..	..	..	..	..	1	..	..	..	1
Portland, Me.	July 12.	42,000	10	..	..	..	..	..	..	1	..	..	..	....
Galveston, Texas	June 27.	40,000	15	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	July 5.	26,000	5	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	July 12.	26,000	12	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	July 12.	22,011	4	..	..	..	..	..	..	..	..	..	..	..
Rock Island, Ill.	July 6.	16,000	4	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	July 5.	15,000	3	..	..	..	..	..	..	..	..	..	..	....

A Check upon Early Marriages.—"A variety of arguments, based on science, prudence, and economy, have often been urged against the headlong folly of very early marriage. Reasoning of this kind, however, has unfortunately but little influence with such as those who commit the folly in question, for, indeed, it is not reason in any recognizable degree which guides their crude calculations. If it were, the probability of overstrain in childbirth, which is the natural counterpart of early functional activity, of domestic discord and beggary, and their too common social accompaniments, would not be so freely and frequently encountered. These matters are part of the tribute which will always be paid while, for the want of native sense and sound home-training, fancy is allowed to guide one of the most important concerns of life. The one available means of cure for this prevalent evil consists in a just exercise of parental control, but this, we need hardly remind ourselves, is only too easy of evasion. In a case lately reported to the Holborn Board of Guardians, a juvenile couple and their infant, already dependent on the rates, were said to have been married by the Superintendent Registrar on receipt of a forged notice of consent purporting to come from the girl's father. The lesson thus conveyed was not lost on the board, which decided to notify the Registrar-General as to the wisdom of instructing an official to make personal inquiry in all such cases respecting the wishes of the parents in regard to the matrimonial ventures of their children under adult age. The proposal is certainly a sound one, and represents the minimum of justifiable interference on the part of a society which regards its own most natural interests."—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

A HISTORICAL SKETCH OF SURGERY, ANCIENT, MEDIÆVAL, AND MODERN.*

By B. A. WATSON, A. M., M. D.,
SURGEON TO JERSEY CITY AND CHRIST HOSPITALS.

It is with us the midday of science. The grandeur of the present completely overshadows the past. Those mighty agents electricity and steam have become the servants of man and readily obey his mandates. The transatlantic cable annihilates space. The modern steamship brings us to our American homes from a city on the Emerald Isle within the short space of six days. The ponderous locomotive engine, breathing and pulsating like a thing of life, drawing a long train of cars freighted with human beings, traverses our broad continent from New York to San Francisco within about the same brief period of time. Are these the noblest achievements of science in our own age? The answer to this question must certainly be given in the negative, since we are fully prepared to show that surgery has kept pace with, if it has not actually led, every other department of science; but the historical treatment of our subject requires us to say adieu for the present to this land of midday brightness, in order to visit that of Egyptian darkness.

It was in this far-off Eastern country, in the northeastern part of the dark continent, that surgery and nearly every other art and science had their birth.

The brightness of this scientific day has passed away and we are now compelled to search for the evidences of her earliest grandeur in a dim light, which confines our researches to the pyramids, temples, tombs, and works of sculpture. But thanks to the Egyptologists who have deciphered the ancient hieroglyphics found on these works of art, and thus afforded us an indistinct and imperfect view of the old pagan civilization. In prehistoric times the practice of surgery at first was unquestionably patriarchal, but, as the inhabitants of the earth increased, the skill of certain individuals in this department became known; and thus they may have established the first monopolies.

Herodotus visited Egypt about the middle of the fifth century before Christ, and was informed by an Egyptian priest that Athothis, the first successor of Menes, founded the palace at Memphis, and, being a physician, was the author of books on surgery.

A medical papyrus in the museum at Berlin, composed under Ramses II (Dynasty XIX), confirms the latter statement. The era of Menes, according to Bunsen, was 3643 B. C.; according to Lepsius, 3893; according to Brugsch, 4455; and according to Mariette, 5004.

Priority in surgical authorship therefore comes down to us bearing an ancient and regal stamp.

The great school of anatomy, surgery, and medicine was founded at Alexandria 300 years before Christ. This famous school of medicine continued to supply the world with surgeons for many centuries. The most eminent among the earlier of the surgeons of this university were Herophilus and Erasistratus. They dissected the human body, and likewise made vivisections on criminals who were placed in their hands by Ptolemy I for this purpose.

Erasistratus was a bold surgeon, who opened the abdominal cavity for the purpose of performing surgical operations on the liver, and also for the extirpation of the spleen. The invention and application of the catheter in cases of retention of urine likewise belongs to him. Herophilus gained the king's favor and secured a position in the Alexandrian school by the reduction of a dislocated shoulder. Here he devoted himself earnestly to the study of anatomy, which to this day bears the impress of his name. Both Erasistratus and Herophilus are enumerated among the most distinguished teachers and authors of their day. The pupils of these eminent surgeons greatly enriched surgery by the introduction of the tourniquet and appliances for the reduction of dislocations of the femur. A pupil of theirs likewise employed an instrument for crushing stones within the bladder.

The ancient status of surgery in Egypt can not be fully shown by historical data, but that it attained a very high standard under pagan rule can not be doubted. Herodotus has informed us that the ophthalmic surgeons were celebrated and practiced at the Court of Cyrus. Ebers interprets a passage in the papyrus which he discovered as relating to the operation for cataract. Surgical instruments for the ear are figured, and artificial teeth have been found in mummies. The further examination of these bodies, which have been preserved from putrefaction for thousands of years in their Egyptian tombs, reveals the fact that bandaging in those ancient times was a fine art, and the well-set fractures certify to a high degree of skill in surgery. In the museum collections of Egyptian antiquities are found lancets, forceps, knives, probes, scissors, cupping-vessels, etc. The walls of temples and monuments are figured with patients undergoing surgical operations. It may be confidently asserted, on the basis of established facts, that Egyptian surgery under the old pagan civilization did not lag behind the other arts and sciences cultivated in that Oriental land. Therefore let us glance hastily at the progress which had already been made in architecture and sculpture. Architecture here attained in this early age a degree of perfection which has not yet been excelled, and in some respects not even equaled, in our own favored times.

In proof of the correctness of this assertion, let us carefully examine the ancient temples, obelisks, and pyramids. Sculpture was here molded with a high degree of accuracy more than two thousand years before the birth of Christ. The sciences of geometry, music, and astronomy are known to have reached a very high standard in the early history of Egypt. The most brilliant era of learning under pagan rule existed about one hundred years before the birth of Christ. The Alexandrian school had then reached the acme of its glory, medicine had been divorced from the priestly rule, and likewise was freed from mysticisms and superstitions. The teachers had been selected because of their well-known scientific attainments, and represented not Egypt alone, but the scientific lore of the Orient. These professors were amply pensioned by the Government, and given free access to the largest library in the world; while, for the further stimulation to action of these scientific gladiators, they were required to engage in open debates and other literary trials. Is it therefore strange that this university should have produced a Euclid, whose name is still familiar in every school where mathematics is studied? The advent of Christ produced a struggle between paganism and His followers. The miraculous cures effected by the Son of God and His disciples were death-blows to scientific or rational surgery. The early Christians were a band of fanatical "Faith Curists." This new development produced its natural effect on the Alexandrian University, but still it continued its existence more than six hundred years after the birth of Christ. Consequently the life of this institution was about one thousand years. During this time there had been gathered into its library about seven hundred thousand volumes. In the year of our Lord 640 the city was captured by the Arabians, and the professors fled to various parts of the world to escape death at the hands of their enemies.

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* The president's address delivered before the Medical Society of New Jersey, June 10, 1890.

Many of the physicians and surgeons went into Italy, which became their future home. This school was the most brilliant gem in the pagan civilization. The surgeons who were trained within her walls while she was at the height of her glory became the peers of kings, and even those educated there after she had entered on her decline were always respected and honored where science could be appreciated. The destruction of this famous school of science was the prelude to the present Egyptian darkness. There is no mention made in the Old Testament of the performance of any surgical operation by the Jews before the children of Israel went into Egypt, where they sojourned four hundred and thirty years; and, consequently, it may be rationally inferred that they learned this art from the Egyptian surgeons. The first reference made to the performance of any operation on the dead or living human body after this Egyptian residence occurred seventeen hundred years before the birth of Christ, when "Joseph commanded his servants, the physicians, to embalm his father, and the physicians embalmed Israel." Circumcision was an operation which was practiced by the Israelites during their sojourn in Egypt. This operation was first performed on Abraham when he was ninety years of age, which was about 1897 before the advent of Christ.

The operation of circumcision was done with sharp Ethiopian stones. In addition to these surgical operations performed by the Israelites, there are also references made in the Scriptures to the following surgical dressings, appliances, and instruments: "An eye salve," "a lump of figs laid for a plaster upon the boil," "an awl for boring the ears," "a roller to bind," as applied to a broken limb, lancets, etc. There are no means known by which it can be determined whether the Jews had made much or little progress in the art and science of surgery after their departure from Egypt; but, after Christ came, the scientific study of medicine was entirely abandoned. The miracles of our Lord, shown in the healing of the sick and the cure of bodily infirmities, led to the belief that the physicians in these difficult and disagreeable processes were all wrong, and that the true remedial mode was by prayer, fasting, and faith.

The earliest history of Greek surgery, like the Egyptian, has its origin in mythological legendry, and one of these legends may possess sufficient interest for my readers to justify me in repeating it here. This interest depends on the fact that representations of the serpent have been for ages and are still variously employed in connection with medical literature. Thus Hygeia, the daughter of Æsculapius and the goddess of health, is represented by an ancient statue in the British Museum as feeding a serpent. I saw, when at Pompeii in 1889, a similar statue standing before the ruins of an old drug-store.* "The mythical origin of Greek medicine selects Melampus as the first who practiced the medical art in Greece, and he is believed to have acquired his skill by a divine revelation. Near his house stood an oak-tree, in whose trunk a serpent made its nest. The servants of Melampus killed the old serpent, but their master would not suffer the young ones to be molested, and he fed them daily with his own hands. One day he slept beneath the shade of the oak, and the young serpents, creeping about him, licked his ears. When he awoke he found to his astonishment that he could discern the uses of inanimate things—herbs, minerals, and all dumb animals. He began at once to apply this knowledge to the service of his fellow-creatures, and kings and princes became his patients."

The parentage of Æsculapius, the grandest of all the Grecian deities, is a subject on which all the ancient historians are in perfect accord. They have told us that Apollo was his father, and Coronis his mother. Furthermore, that Æsculapius, like most of the other young heroes of his time, was instructed by the Centaur Chiron in all the arts, especially those pertaining to the practice of surgery. Plato has informed us that the skill of Æsculapius was merely confined to the dressing and healing of wounds with herbs proper for arresting hæmorrhage and assuaging pain. "Plutarch asserts that such comprised the whole of ancient Grecian medicine."

The mythical story of Æsculapius possesses for every medical student a high degree of interest, since his name was for ages closely associated with the medical practice in Greece. He was revered by the Greeks as a physician, and at the same time worshiped as a god. The temples of Æsculapius were erected in every part of Greece, and no other deity in Grecian mythology shared with him his medical attributes. These temples served at the same time as hospitals for the sick and places for the worship of this deity.

Among the most magnificent of these temples were those at Epidaurus, Trikka, Cos, Rhodes, and Cnidos. The temple at Epidaurus is supposed to have been erected twelve hundred years before Christ, and was surrounded by an extensive grove of trees, abounding in serpents. These serpents—emblems of health and life—were also kept in all the Æsculapian temples.

There were hung on the walls of these temples tablets on which were recorded the name and age of the patient, the disease and its symptoms, and the treatment by which the cure had been accomplished.

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* *A Chronology of Medicine*, edited by John Morgan Richards, p. 30.

These records were the principal source from which medical knowledge was obtained when the Greeks commenced the study of medicine as a science. These temples were at first devoted entirely to the treatment of the sick and the worship of Æsculapius; afterward, in some instances, became the chief medical schools of Greece. The most ancient of these schools were situated at Cos, Cnidos, and Rhodes. The temples were always presided over by the Æsculapiadæ, a sect of priests, the reputed descendants of Æsculapius. The teaching of surgery was not long confined to the descendants of Æsculapius, since Pythagorus, in the sixth century before Christ, established at Crotona a school of medicine, in which Democedes, an eminent surgeon, was trained. It is also thought that some surgical training was given to students in the Grecian gymnasiums. These priests, the Æsculapiadæ, in the selection of sites for the Æsculapian temples and the preparation of the sick for admission, showed a degree of knowledge worthy of an honest surgeon's highest admiration, while, by their constant exhibition of greed and their cunningly devised plans for the deception of their patients, they set an example which could be advantageously imitated by the most unscrupulous quacks of any age.

The temples commonly occupied some elevated and healthy locality, in close proximity to cities, surrounded by pleasant groves, and in the neighborhood of thermal springs or fountains of medicated waters. The sick, prior to their admission, were required to submit to a thorough purification by fasting, ablution, and inunction, while all other persons were rigorously excluded from these temples. Homer added other gems to the crown of the already deified Æsculapius by rendering immortal the names of his sons, Machaon and Podalirius, whom he praised as the grandest of heroes and the wisest of surgeons. The two brothers were at the siege of Troy, which occurred twelve hundred years before the birth of Christ, and participated in this action in their dual capacity.

In Homeric poems their virtues are thus portrayed :

> "Of two great *surgeons*, Podalirius stands
> This hour surrounded by the Trojan bands,
> And great Machaon, wounded in his tent,
> Now wants the succor which so oft he lent."

The treatment of wounds at this early period (about 1200 B. C.) is thus described by Homer, who wrote in the ninth century before Christ:

> "Patroclus cut the forky steel away,
> And in his hand a bitter root he pressed,
> The wound he washed and styptic juice infused.
> The closing flesh that instant ceased to glow,
> The wound to torture and the blood to flow."
> *Iliad*, Book XI.

We learn from ancient history that skillful physicians were highly appreciated under pagan rule ; when captured as prisoners of war they were sold into bondage for fabulous prices. In some cases they were admitted as residents to the royal palaces of their captors and rewarded for special services by receiving in marriage the daughter of the ruling sovereign and a portion of his kingdom.

Homer, speaking for the wise and august Nestor, says :

> "A wise physician, skilled our wounds to heal,
> Is more than armies to the public weal."

It must be admitted that nothing like a clear and comprehensive history of Grecian surgery can now be obtained until we come down to the Hippocratic period in the fifth century before Christ. Homer probably possessed some definite knowledge of the surgery of the Trojan period, but his writings, unfortunately, afford us but little of the desired light, and, in fact, they may be fitly compared to the vivid flashes of lightning in a dark night. Here follows a long period—about seven hundred years—of which nothing is known of the surgical progress of Greece. However, it is quite evident that surgical progress during this period was severely embarrassed by the want of an accurate anatomical knowledge. The laws of Greece strictly prohibited the dissection of the human body, and this condition must have been a great obstacle in the way of surgical advancement. Hippocrates (450–351 B. C.) was born on the island of Cos, a famous seat of learning at that time, and he availed himself of all its advantages. In later years, prior to commencing his life's work, he traveled over every part of Greece, spent much time in study at Athens and other seats of learning, and was everywhere assisted by the ablest masters in science and philosophy. In this manner his mind was well stored with knowledge by a long and faithful course of study, while the variety of these studies, aided by the advantages of travel and contact with the brightest minds of earth, had broadened his views and developed his reasoning faculties far beyond those ordinarily found in professional men of his or any other age. *Still, there was something wanting to enable genius to rise to an undying fame. He must know his own power.*

This knowledge was soon revealed to him. A pestilence had seized hold of Athens. He hastened to this city thus threatened with destruction, and succeeded in delivering her from the terrible scourge. The people were grateful for the deliverance, and promptly rewarded him for these valuable services. A golden crown was placed upon his head, and all the rights of citizenship were conferred upon him. These honors and marks of distinction were promptly followed by others from various sources, some of which he accepted and others he declined; but nothing was now wanting to enable him to fulfill man's highest mission, to win for himself undying fame, and at the same time become the world's greatest benefactor. His writings mark in Grecian history a new era—the brightest the world has ever known—and well may he be styled the "Father of Medicine." He died in the ninety-ninth year of his age, free from all disorders of the mind and body, and after death he was designated "*The Great*"—the same honor which was conferred on Hercules. He was the Homer of his profession. The works of Hippocrates were long preserved in the Alexandrian library, and have been handed down to us in such a form that every one who will may read them, and they prove to us that he was a general practitioner and not a specialist.

"No less than eight of his seventeen treatises now admitted to be genuine works are strictly surgical, . . . and furnish us a very clear insight of the principles and practice of this science and art as it was understood twenty-three centuries ago. . . . When we reflect upon the character and importance of the numerous operations which were then performed, we certainly find more occasion for admiration than we do for adverse criticism. Thus we find that, in the ancient days of surgery, fractures and dislocations were carefully adjusted and reduced; extension and counter-extension were made by ingenious apparatus; the most exact coaptation of fractured bones was insisted upon, as it was considered disgraceful to allow the patient to be maimed with a crooked or a shortened limb. Splints, and even waxed bandages, giving as much fixity, support, and immobility to the parts as is now done by starch and plaster of Paris, were then in use. Hippocrates also gives directions for the suspension of fractured limbs in gutters and slings. The projecting ends of bones in compound fractures were carefully resected. The bones of the cranium were trepanned for fracture with depression of bone, or for the evacuation of accumulations of blood or pus. Abscesses of the liver, and even of the kidneys, were opened with boldness and freedom. The thoracic cavity was explored by rude percussion and auscultation for the detection of fluids, and, when found, paracentesis was performed, as was also done in abdominal dropsies. The rectum was explored by an appropriate speculum; fistula in ano and hæmorrhoids were operated upon; club-feet were adjusted by bandaging and the use of stiff leather and leaden shoes; the bladder was explored by sounds for the detection of calculi; lithotomy was performed by specialists; gangrenous and mangled limbs were amputated; the dead fœtus was extracted with instruments from the uterus; venesection, scarification, and cupping were also practiced in the days of Hippocrates."*

Hippocrates failed to leave behind any distinguished sons or pupils whose names have been handed down in the history of surgery. Aristotle (384–322 B. C.), who lived at a somewhat later period than Hippocrates, added something to the existing knowledge of anatomy. Praxagoras, a distinguished surgeon of Cos—a contemporary of Aristotle—contributed to both anatomy and surgery. He was the first to establish a distinction between the arteries and veins, while in his surgical practice he was bolder than most of his predecessors, since he removed the uvula in inflammatory sore throat, opened the abdominal cavity in those affected with the iliac passion, and replaced the intestines in their normal position. Asclepiades was born at Prussa, in Bithynia, was educated at Alexandria under Cleophantus, and commenced life as a teacher of elocution. He taught in Athens and other parts of Greece, but, having failed in this attempt, he turned his attention to surgery, which he began to practice at Rome, where he flourished as a surgeon and the friend of Cicero about ninety years before the birth of Christ. Here he gained, by the ostentatious display of a little wisdom and much tact, both popularity and wealth. He cultivated most assiduously the friendship of politicians and others having power. Asclepiades was the successor of Archagathus, a Peloponesian, who settled at Rome as a practitioner of surgery about two hundred years before the birth of Christ, and is supposed to have been the first to practice medicine as a profession in that ancient city; but, having given offense to some of its ignorant and superstitious inhabitants, was nicknamed the "*executioner*," and finally banished.

Asclepiades shrewdly avoided the errors into which Archagathus had fallen, studied carefully the foibles and whims of the Romans, and thus enriched himself by appealing to their pride and vanity. He practically discarded the use of all internal medicines, under the pretext that they offended the stomach, and confined himself principally to hygienic measures and the regulation of the diet. The chief remedial agents employed by him consisted in the internal use of wine and a free application of friction to the skin. His comparative ignorance of medicine was in a measure compensated for by his superior knowledge of elocution, which he now turned to a good account by establishing a medical school, in which he became a teacher. He was the first to announce the doctrine of the self-limitation of disease, and declared that the principal cure for fevers was the disease itself. He wrote on ulcers, acute and chronic diseases, and likewise recommended tracheotomy in cases of impending suffocation. In perfect harmony with the many other acts of his life, we are told that he made a wager that he would never be sick, and, if we can believe his biographer, he won even this bet, since he died from the effects of a fall in old age.

The writings of the earliest historians make it apparent that Greece, like every other portion of the inhabited world, had her own charlatans many centuries before the birth of Christ. The Greeks had also in their pay military surgeons; but, according to Xenophon, they were only called after sanguinary battles to dress the wounded. The aleipti, or physicians, sold also secret remedies at the public baths, and were frequently consulted in cases of wounds, etc.

It is self-evident that attempts were made to practice surgery among all the nations of the earth at a very early day; in fact, such efforts were contemporaneous with man's wants. It is equally certain that the knowledge of this art did not make any decided progress among any of the nations until the other arts and sciences were cultivated. It may therefore be confidently asserted that those nations in which the light of general science was first diffused were the first to elevate the standard of surgery. In perfect harmony with this opinion is the fact that in Egypt and Greece the science and art of surgery, as shown by ancient history, soon attained a comparatively high standard while Persia was dependent on these countries for her surgeons.

The story of King Darius and Democedes (fifth century before Christ) shows that the surgical representatives o these countries sometimes came in conflict with each other "It happened that King Darius as he leaped from hi horse sprained his foot. The sprain was of no common severity, for the ankle bones were forced out of their sockets."* In fact, it was a dislocation. Now Darius had already at his court certain Egyptians, whom he reckoned the best skilled physicians in all the world; to their aid therefore he had recourse; but they twisted the foot so clumsily and used such violence that they only made the mischief greater. For seven days and seven nights the king lay without sleep, so grievous was the pain he suffered. On the eighth day of his indisposition, one who had heard, before leaving Sardis, of the skill of Democedes, the Crotonian, told Darius, who commanded that he should be brought with all speed into his presence.

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* *International Encyclopædia of Surgery*, vol. vi, pp. 114 *et seq.*

When, therefore, they found him among the slaves of Crates, quite uncared for by any one, they brought him just as he was, clanking his fetters and clothed in rags, before the king. As soon as he was entered into the presence, Darius asked him if he knew medicine, to which he answered "No," for he feared if he made himself known he would lose all chance of again beholding Greece. Darius, however, perceiving that he dealt deceitfully with him and really understood the art, bade those who had brought him into his presence go fetch the scourges and the pricking irons (or blinding irons to put out his eyes). Upon this Democedes made confession, but at the same time said he had no thorough knowledge of medicine; he had but lived some time with a physician, and in this way had gained a slight smattering of the art. However, Darius put himself under his care, and Democedes, by using the remedies customary among the Greeks, and exchanging the violent treatment of the Egyptians for milder means, first enabled him to get some sleep, and then in a very little time restored him altogether, after he had quite lost the hope of ever having the use of his foot. Democedes, subsequently, while still residing at the Persian court, added another triumph to that already gained by the successful treatment of a tumor of the breast, under which Atossa, the daughter of Cyrus and wife of Darius, had labored for a considerable period.

There were no medical schools established in Persia prior to the birth of Christ; but the Nestorians, a sect of Christians fleeing the persecutions of orthodoxy, some time in the fifteenth century of the Christian era settled at Edessa, in Mesopotamia, and founded a medical college. This school gained some celebrity. Another body of Nestorians settled in the city of Dschondisabour and established another medical college. It was in this school that the Persians and Arabians studied the healing art during a portion of the Dark Ages. The Hindoo mythology assigns to Brahma the powers of deity and likewise those of a physician, but has most generously attributed to six other minor divinities the power of healing the sick.

It is unquestionably true that surgery in the early part of the Christian era had already attained to a high standard in India, the real question being whether the Greeks got their knowledge of surgery from the Hindoos, through the Egyptian priesthood, or the Hindoos obtained it from contact with the western civilization after the campaigns of Alexander.

It seems to me highly probable that this knowledge came to the Hindoos from contact with the western civilization. The oldest existing book relating in any way to surgery is the *Charaka Samhita*, a bulky encyclopædia, probably composed some centuries after Christ. Another work of at least equal authority, but probably somewhat more modern, is the *Susrata*. The *Susrata* speaks of a single class of practitioners who treated both medical and surgical cases.

The only distinction recognized between medicine and surgery was the inferior order of barbers, nail-trimmers, ear-borers, tooth-drawers, and phlebotomists, who were outside of the Brahmanical caste. The same author describes more than one hundred surgical instruments made of steel, which include the most important of those now in common use by surgeons. The Chinese seem to have been far behind the Hindoos. Their knowledge of surgery is still of a very primitive character. Their distinctive surgical invention is acupuncture, or the insertion of fine needles into the seats of pain or inflammation. The present ignorance of the Chinese, as well as the ancient, in surgical matters is probably due to their prejudices and superstitions. They are opposed to drawing blood or dissecting the human body, although they are credited with opening boils. The moxa is a great favorite with them, but is employed more frequently as a prophylactic than as a curative agent. The Chinese policy was for ages opposed to any association with the civilized nations of earth; and consequently they debarred themselves from learning much of that which would have otherwise come to them through contact. They are, or have been until very recently, entirely without medical schools.

History fails to show that there has been in any age any attempt to teach medicine. The Japanese did nothing for the advancement of surgery during ancient times; in fact, all that has been said of the Chinese is equally applicable to them. Rome was settled about seven hundred and fifty years before the birth of Christ, and remained about six hundred years without either physicians or surgeons, trusting entirely during this long period, for the cure of diseases and wounds, to spells and incantations. Public edicts were issued against the professional practice of medicine and surgery during this period, while the public were encouraged to put their faith in traditional prescriptions and religious rites.

Cato, the first Censor, gravely wrote down the mystic words of incantation for curing dislocations and fractures of bones. Rome produced a surgical author, who lived during the Augustan period (30 B. C.–14 A. D.), whose writings have been handed down to us, and constitute the most perfect record in our possession of ancient surgery. The era in which he lived was the grandest period of the Roman Empire and gives us in literature the immortal names of Virgil, Horace, Ovid, and Celsus. The writings of Aurelius Cornelius Celsus likewise serve as a connecting link between the Hippocratic period and the early part of the Christian era, showing the marked progress which had been made during the preceding four hundred years. In these writings we behold the mighty influence wielded by the Alexandrian school on the science and art of surgery. In fact, the author shows perfect familiarity with both Greek and Egyptian surgery. Celsus has carefully described the operation for cataract, plastic operations on the ears, lips, nose, etc. Likewise the removal of nasal polypi and the plugging of the nostrils for the control of hæmorrhage. In addition to these operations, he described the method employed for the extirpation of bronchocele, the differential diagnosis of umbilical tumors and omental and intestinal hernia, and the treatment of the latter with pads and bandages. He also mentions the suturing of the intestines, treatment of hydrocele, varicocele, phimosis, stone in the bladder—operative method employed, etc.

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* *History of the Heroes of Medicine*, by Russel, pp. 2 *et seq.*

These writings by Celsus show a marked advance in the performance of amputations of the extremities since the Hippocratic age. Hippocrates informs us that these amputations were only made through the dead parts lest the patient should die from loss of blood. Celsus gives directions for the performance of these operations through the living tissues, and describes ligation of the arteries as the most potent means known for the control of arterial hæmorrhage.

It should be here understood that I have enumerated only a limited number of the surgical operations which Celsus has described so lucidly, and the modern surgeon may be confidently assured that these surgical writings are still worthy of a careful perusal.

Soranus, surnamed the younger, a native of Ephesus, a distinguished pupil of the Alexandrian school, located at Rome, under the reign of Trajan and Hadrian (98–138 A. D.). The works of this distinguished author have perished with the exception of some fragments which have been handed down to us. In his treatise *De utero et pudendo muliebrie* he gives a lucid description of the differential diagnosis of pregnancy, ascites, and solid tumors by the aid of percussion, palpation, and succussion; and likewise mentions the use of the vaginal speculum and the uterine sound. He also wrote a treatise on fractures, a portion of which is still extant.

Antyllus, a distinguished Italian surgeon and author, flourished in the latter part of the first or in the early part of the second century. The greater portion of his works have perished, but fragments have been preserved in the quotations of subsequent writers. He was the first to recommend bronchotomy in cynanche, arteriotomy instead of venesection, etc.

Galen, whose writings were regarded as the highest authority for more than thirteen hundred years on medical topics, was a physician rather than a surgeon. He was born at Pergamus, in Asia Minor, about one hundred and thirty years after the birth of Christ, settled in Rome, where he won the highest fame, in the year one hundred and sixty-four, but remained there about five years, when he returned to the land of his birth, where he died about 200 A. D.

The most worthy surgeons who graced the decline of the Roman Empire were Oribasius (350 A. D.), Aetius (400 A. D.), and Paulus Ægineta (420 A. D.). These were all compilers rather than original authors.

The surgery of Oribasius is characterized by timidity and shows no progress since the Hippocratic period. We have reached a period when amulets, charms, and incantations were employed in the place of rational means for the relief of surgical cases. Thus Aetius, in composing a certain ointment, required that there should be repeated in a loud voice, "*May the God of Abraham, the God of Isaac, and the God of Jacob deign to accord virtues to this medicine*"; and, when a foreign body had lodged in the gullet, recommended that the neck of the patient should be touched by the surgeon, who at the same time exclaims: "*Get thee out or descend, the martyr Blaise, Servant of Jesus Christ, commands thee.*"

The writings of Aetius, like those of Oribasius, contained only extracts from the older surgical authors; and these were interwoven with the grossest bigotry and superstition—products offered by Aetius in the place of scientific knowledge and rational conclusions.

There is much difference of opinion among the old historians in regard to the age in which Paulus Ægineta lived and wrote; and at this day it is probably impossible to fix it with any degree of certainty. Some authorities believe it was as late as the seventh century of the Christian era, while others think it was as early as the fifth.

His writings are similar in most respects to those of Oribasius and Aetius, but possess some original and valuable information. He was educated at Alexandria, and is supposed to have been a professor in that city. His work presents an able and orderly summary of Greek medicine from Hippocrates downward. This author, in his published work, draws from many sources, and much from his own personal experience.

We have now traced the history of surgery from its mythological origin in Egypt, and from the cloud-capped Olympus, the habitation of the gods in Greece; we have watched it loitering in primitive purity about the temples of Æsculapius, till it found its onward way to Rome, where, polluted by the filth of that vicious metropolis, we have seen it converted into a diabolical system of charlatanism—reason and experience banished, ignorance and superstition re-established—where charms, amulets, and sacrilegious incantations take the place of scientific knowledge; in this degraded state it falls into the hands of the so-called Christian priest physicians, after it had been rescued from the pagan priesthood by the efforts of Hippocrates and the Alexandrian school of medicine.

The dark age of surgery is thus ushered in, but the darkness steadily increases during the next eight or nine hundred years. During this period there were no distinguished surgeons, and nearly all which had been previously learned of this science and art was forgotten. It was principally in the school of Salernum that even a flickering light was maintained. The University of Salerno was founded in 1150, and was long one of the greatest seats of learning in Italy. It appears from history, however, that Salerno, even prior to this date, was entitled to some consideration as a city of medical learning, since at the end of the seventh century it was the seat of a Benedictine monastery, and that some of the prelates and higher clergy were distinguished for their medical acquirements. But it has been, by recent researches, clearly established that the celebrated "*Schola salernitana*" was purely a secular institution. It is therefore certain that the school of medicine gradually grew up, since, at the end of the ninth century, Salernian physicians were already spoken of and the city was known as "*Civitas Hippocratica.*"

At a later period we find great and royal personages resorting to Salerno for the restoration of their health, among whom was William of Normandy, afterward the Conqueror. The Jewish element appears to have been important among the students, and possibly among the professors. The reputation of the school was great until the twelfth or thirteenth century, when the introduction of Arab medicine was gradually fatal to it.

The foundation of the University of Naples and the rise of Montpellier also contributed to its decline. About the middle of the eleventh century the Arabian medical writers began to be known by Latin translations in the western world.

Constantinus Africanus, a monk, was the author of the earliest of such versions (1050 A. D.). His labors were directed chiefly to the less important and bulky Arabian authors, of whom Haly was the most noted. During this period the translation of the works of the old masters in medicine was pushed forward, compendiums from the same source were prepared, but none of the books contained any original matter, nor were the selections always well chosen. In surgery this period was much more productive than in medicine, especially in Italy and France; but the limits of our subject only permit us to mention Gulielmus de Saliceto, of Piacenza (about 1275), Lanfranc, of Milan (died about 1306), Guy de Chauliac (about 1350), and the Englishman, John Ardern (about 1350).

The above-named authors contributed somewhat to the advancement of surgery, or at least helped to stay the tide which was so surely bearing it away. They possessed sufficient independence to oppose the charlatanism of the greedy "Faith Curists" in the Roman priesthood, and taught the importance of clinical observations and rationalism in the practice of surgery. The science and art of surgery had at this time reached its lowest degradation. The priests had entirely abandoned the precepts of the old masters in surgery, and professed to cure all sorts of injuries by use of the so-called sacred relics, charms, amulets, etc. The most absurd reports were made of miraculous cures, attested by monks, abbots, bishops, popes, and consecrated saints. They alleged that they had restored the blind, the epileptic, the insane, etc. "The Saints of the Romanists have usurped the place of the Zodiacal constellations in the government of the parts of man's body; for every limb they have a Saint. Thus St. Otilia keepes the head instead of Aries; St. Blasius is appointed to governe the neck instead of Taurus"; and so old Melton goes on to the end of the list. Pettigrew gives the names of nearly fifty Roman Catholic saints who were believed to have special control over certain individual diseases, both medical and surgical. The priesthood also assigned saints to wells and springs to give healing virtues to these waters, and instituted health-seeking pilgrimages to these places.*

This evil had become so firmly rooted that it required the best efforts of the Popes and Holy Councils for nearly one hundred years to remove surgery from the vile hands into which it had fallen. The first mandate against this practice was issued by the Lateran Council, under Pope Callestus II, A. D. 1123, while, "in 1215, Innocent III fulminated an anathema specially directed against surgery, by ordaining that, as the Church abhorred all cruel or sanguinary practices, no priest should be permitted to follow surgery, or to perform any operations in which either instruments of steel or fire were employed, and that they should refuse their benediction to all those who professed and pursued it." †

It is unquestionably true that the priest surgeons, on account of the opposition in the Roman Church, were at first influenced to employ barbers to perform surgical operations under their directions, although the practice had its origin in the early part of the tenth century, while the final edict which compelled this course was not promulgated until the first part of the thirteenth. The barber surgeons, having learned something of the art of surgery from the priests, finally usurped the entire practice.

Well may the surgeon of the present day thank God that his lot has been cast with intelligent *confrères* rather than with the barber surgeons, of whom Thomas Gale, an English military surgeon, said in 1544: "I remember when I was at the wars of Muttrel, in the time of that famous prince King Henry VIII, there was a great rabblement there that took upon them to be surgeons. Some were sow-gelders and horse-gelders, with tinkers and cobblers. This noble set did such great cures that they got themselves a perpetual name, for, like as Thessalus's sect were called Thessalanians, so was this rabblement for these notorious cases called dog leeches; for in two dressings they did commonly make these cures whole and sound for ever after." ‡

History informs us in the following language that King Henry VIII and his Parliament, in the third year of his reign, *restrained the practice of both* (medicine and surgery) by the following act: "To the King our Sovereign Lord, and to all the Lords spiritual and temporal, and Commons in this present Parliament assembled: For-as-much as the science and cunning of physick and surgery (to the perfect knowledge whereof be requisite both great learning and ripe experience) is daily, within this realm, exercised by a great multitude of ignorant persons, of whom the greater part have no manner of insight in the same, nor in any other kind of learning; Some also can no letters on the book so far forth that common artificers, as smiths, weavers, and women, boldly and accustomably take upon themselves great cures, and thing of great difficulty, in the which they partly use sorcery and witchcraft, partly apply such medicines unto the disease, as be very noious, and nothing meet therefore, to the high displeasure of God, great infamy of the faculty, and the grievous hurt, damage and destruction of many of the king's liege people, most especially *them that can not discern the uncunning from the cunning: Be it therefore to the surety and comfort of all manner of people*, by the authority of this present parliament enacted, that no person within the city of London, nor within seven miles of the same, take upon him to exercise or occupy as a physician or surgeon, except he be first examined, approved and admitted by the bishop of London, or by the dean of St. Paul's for the time being, calling to him or them four doctors of physick, and for surgery, other expert persons in that faculty; and for the first examination such as they shall think conveniant, and afterwards always four of them that have been so approved, upon the pain of forfeiture, for every month that they do occupy as physicians or surgeons not admitted or examined after the tenour of this act, of five pound, etc." *

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* *International Encyclopædia of Surgery*, vol. vi, p. 1181.

† *Ibid.*

‡ *Ibid.*, p. 1189.

These extracts present a faithful picture of the degraded condition of surgery in the hands of the barber surgeons, to whom it was principally confided until about the middle of the seventeenth century, while the use of the sympathetic powder of Sir Kenelm Digby affords us a glimpse of the irrational methods employed in the treatment of wounds. "Whenever any wound had been inflicted, this powder was applied to the weapon that had inflicted it, which was, moreover, covered with ointment and dressed two or three times a day." Fortunately for the science of surgery and humanity, during the whole period in which the practice of surgery was monopolized by the barber surgeons there were a few scientific and bold spirits, who kept alive the flickering sparks of an almost forgotten science. Among this number must be mentioned Mondini de Luzzi, a professor of anatomy at Bologna, who dissected the human subject before his class in 1315—a feat which had not been previously performed during the Christian era. He likewise composed a work on anatomy, which continued to be used in all the medical schools of Europe for about two centuries.

This bold and successful example was imitated by other teachers. The dissection of the human body once more placed surgery on a firm basis, and it has continued to progress both as a science and an art to the present time. It was not, however, until the first half of the sixteenth century that there appeared one greater than himself, and whose labors far excelled those of this noble pioneer.

Andreas Vesalius was born in 1514 and died in 1564. He became, when twenty-two years of age, a professor of anatomy in the renowned University at Padua, where he lectured to large classes of students. He published in 1543 by far the most splendid work on anatomy the world had ever seen. Thus it was that he surprised the world and immortalized his name. There was born at Laval, in the province of Mayenne, France, about 1509, the most famous surgeon of his age, Ambroise Paré, who did more for the advancement of surgery than any other that lived during the sixteenth century. He inherited from his parents poverty, a strong constitution, lofty ambition, and a strong will-power. This inheritance secured for him in after life a royal recognition among men of science and the rulers of his country.

In boyhood he was apprenticed to a barber surgeon, from whom he learned the rudiments of minor surgery. Having come in contact with Germain Colot, a distinguished lithotomist, whom he greatly admired for his skill and dexterity, the young barber surgeon determined to go to Paris in order to further perfect himself in surgery. He served three years at the Hôtel Dieu as a house surgeon, and was appointed a military surgeon at the age of twenty-seven, in which capacity he rapidly rose to the highest rank in the French army. It was in this service that he so greatly distinguished himself as a close observer and rational practitioner. He rendered special service to the profession by the re-introduction and popularization of the ligature, by discarding the senseless and barbarous treatment of wounds with boiling-hot oil, by improving the hygienic surroundings of the wounded—which action was, at this early day, based on the discovery that the atmosphere of hospitals, camps, etc., contained some septic agent which exerted a deleterious effect on open wounds.

He likewise rendered great and permanent service to surgery as an author, and these books still remain and speak to the profession, although the hand which penned them has long since returned to dust. This distinguished surgeon died in 1590, full of years and crowned with honors. The grandeur of his labors has immortalized his name. Humanity owes him a debt which it can never repay, and may the rising generation of surgeons imitate his noble example, and thus erect a monument to their names which can never be destroyed by vandalism.

It may be observed, in rapidly passing over the history of the sixteenth century, that certain events which had occurred during the fifteenth century served to awaken thought and pave the way for the rapid progress made in the arts and sciences during Paré's time. Thus the discovery of printing became the hand-maiden for the diffusion of knowledge. The dissection of the human subject supplied the requisite anatomical knowledge for the intelligent performance of surgical operations. The establishment of medical schools in various parts of Italy—particularly those of Padua and Bologna—afforded an opportunity for students to congregate together for the purpose of receiving instruction and stimulated the professors to greater activity in their teachings.

Thus we find that Montagnana, a professor at Padua, in 1460, who cultivated anatomy, boasted of having opened fourteen subjects, a thing quite remarkable for his time, while Leonard Bertapaglia, a professor of surgery at Padua, published a commentary on the fourth book of Avicenna, which is characterized for its classical lore, but not otherwise above the barber surgery of the times, since his surgical theories are filled with absurdities. Another professor at Padua, Alexander Beneditti, is said to have contributed greatly to the improvement of anatomy and surgery in Italy toward the end of the fifteenth century.

It was likewise during this century that the operation was devised for the replacing of the nose when lost by accident or disease. This operation was first performed by three Italians—Vincent Vianoe, Branca, and Bojani. It was afterward improved by Tagliacozzi. The treatment of gunshot wounds in the sixteenth century was greatly improved by Maggi Leone, a professor at Pavia; Botal, a celebrated anatomist; Felix Wurz, a German surgeon; Guillemeau, a pupil of Paré; and others. Besides the anatomists and surgeons already mentioned, among the distinguished in the profession in this century there should be added the following names: Fabricius Hildanus; Berenger de Carpi, who dissected more than one hundred subjects; James Dubois, who Latinized his name Sylvius, and was the master of the great Vesalius and the true founder of anatomy in France, and also the first who injected the blood-vessels. Likewise Eustachius, who discovered the Eustachian tube; Gabriel Falloppius, who first described the Falloppian tube; Fabricius ab Acquapendente, who first described the valves of the veins; and, lastly, Michael Servetus, who comprehended the circulation of the blood through the lungs; but it was reserved for Harvey at a later date to discover the general circulation.

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* *The Unity of Medicine.* By F. Davis, London. Pp. 48 *et seq.*

The seventeenth century was not marked by any grand advance in surgery; but several discoveries were made which have since contributed to the material progress of this art and science. Thus the discovery of the general circulation of the blood by William Harvey in 1619 has brought forth valuable results. Malpighi, of Bologna, soon afterward supplemented Harvey's discovery by microscopically demonstrating the course of the blood-corpuscles in the minute blood-vessels, and the communication between the veins and arteries. History informs us that "burning spheres," as they are termed by Aristophanes, were sold in the shops of Athens in his day—about 400 B. C.

There is no evidence that lenses were employed at this early date for magnifying, at least otherwise than as reading-glasses. It is not until the seventeenth century that we find powerful magnifiers of glass actually employed for scientific investigation. The names of Malpighi, Lieberkühn, Hooke, Leeuwenhoek, Swammerdam, Lyonnet, and Ellis are closely connected with the history of the simple microscope.

The use of this instrument has proved to be a most powerful adjuvant for the advancement of surgery, since it enables us to study the minute tissues of the body, and thus understand the nature and difference between histological and pathological elements. During this century there was considerable progress made in the study of anatomy, and among the names which were made illustrious by these researches in the anatomical field may be mentioned that of Schneider, a German anatomist and writer, whose name is associated with the mucous lining of the nose; Francis Glisson, memorable for his researches on the anatomy of the liver; Peyer, who studied carefully the glands of the intestines; Meibomius, who studied the anatomy of the eyelids; Thomas Willis, who studied the anatomy of the brain; while Stenson and Wharton studied the anatomy of the glandular system.

Surgery made little progress during this century, owing principally to the fact that it had not yet been taken from the hands of the barber surgeons and elevated to the standard which it now holds among the professions. England, however, produced during this period some surgeons whose names are worthy of mention, although they are scarcely entitled to be considered illustrious. Among these were Richard Wiseman, author of a book on surgery, and James Young, an English surgeon of Plymouth, a contemporary of Wiseman, who published a treatise on several surgical subjects at London in the year 1679.

The eighteenth century was not characterized by any remarkable progress in surgery, although the tendency was in the right direction. There was, in fact, some marked improvement made in the treatment of gunshot wounds. (The discovery of gunpowder and the use of firearms in war marked a new period in military surgery; but the date of this innovation has never been satisfactorily settled. It is, however, fully established that it was employed in the early part of the Christian era. The soldiers were horrified at the enormous increase in the mortality attending a battle, while the surgeons were unable, in their ignorance of scientific wound treatment, to render any important service. Under these circumstances the wounds were soon declared to be poisoned with the gunpowder and ball, and the surgeons and soldiers united in thinking that this mighty agent was the power of hell and had been invented by the devil.) The old and cruel treatment which had been introduced by John de Vigo and others, based on the supposition that every gunshot wound contained a poisonous substance, even in its primary condition, and therefore must be treated by pouring boiling hot oil into it, was entirely abandoned.

The cumbrous dressings which had been previously in vogue were entirely superseded and more rational means were employed in the treatment of wounds. The numerous European wars of this century gave an abundant opportunity for the study of gunshot wounds. "The degrading association of the barbers and surgeons was abolished in 1743 at Paris by an edict breaking the legal fetters which had for so many years bound together the surgeons of St. Cosine and the barbers, and the example was speedily followed in 1745 by a similar act of the English Parliament. Freed from this galling servitude, surgery became a separate and distinct branch, to be ever afterward studied and cultivated by educated members of the profession." Prior to this date surgery had not been taught in the medical schools during the Christian era; but in this century surgical professors were appointed in Holland and Germany. The study of anatomy, which had made very rapid progress during the two preceding centuries, still continued to engage the attention of anatomists in every part of Europe. Duverney, during the latter part of the seventeenth century, had established the identity of the chyliferous and lymphatic vessels, Pacchioni had discovered the lymphatic glands of the dura mater, and Cowper the two glands which have since borne his name.

It was during this century that anatomists studied carefully the anatomy of the brain, nerves, eye, and ear. Pacchioni and Baglivi gave their attention to the brain, but the result was entirely negative. Tarin Le Cat and Meckel studied the cranial nerves with satisfactory results.* "It had already been established in the seventeenth century that the seat of cataract was the crystalline lens, and Morgagni now described the humor in the midst of which it was nourished. Experiments were also made by Petit in regard to the nerves of the eye, the effect of age in producing changes in the organ, etc.; and Albinus and Haller each professed to have discovered the pupillary membrane. The two anatomists, however, who accomplished most at this time in perfecting the study of the anatomy of the eye were Porterfield, of Edinburgh, and Zinn, of Göttingen, each of whom ascribed important functions to the ciliary process. The structure of the membrana tympani and the distribution of the auditory nerve had been accurately studied a few years before the commencement of the eighteenth century; but Valsalva now described much more precisely the minute portions of the ear, and of the labyrinth especially, the use of the fluid of which was afterward discovered by Cotunnius and Meckel." †

Important results were obtained during this century, by the study of the lymphatics, by Cruikshank, Hewsen, Paul Mascagni, and William and John Hunter. The study of pathological anatomy now commenced in all the European countries, with which the name of John Baptiste Morgagni is still intimately connected, having been perpetuated by the work which he prepared on this subject. The surgeons of the eighteenth century whose names have been handed down to us were the following: John Hunter, Jean Louis Petit, Laurence Heister, Percival Pott, Pierre Joseph Desault, William Cheselden, Sir James Earle, Henry Francis Le Dran, and Chopart. The first named in this distinguished galaxy of illustrious men was unquestionably the most distinguished anatomist and surgical pathologist of his era. He was born of Scotch parents in 1728, and died in 1793. Poverty, ignorance, energy, an indomitable will-power, and a robust constitution were his inheritance. His father had died when young Hunter was only two years old, and his mother, although a strong-minded woman, had failed to exercise much influence over him. He went to London when about twenty years of age, where his elder brother, William, had been living some time. At that time Dr. William was doing a large and lucrative practice and rapidly gaining in reputation. The meeting between the brothers was cordial, and John was given the position of assistant in William's anatomical rooms, which were then in their infancy, but rapidly growing in favor on account of the educational advantages which they offered to students. The high position which Dr. William Hunter had already attained in the great metropolis stimulated his brother John to put forth all his latent or undeveloped energies, in order that he too might at some future time become a power among men. Ignorant and poor as he was at that time, the indomitable will-power, supported by energy and a robust constitution, absolutely settled the question in favor of success, since with such persons "to will" is to do. He pressed forward, soon acquired a thorough knowledge of anatomy, and acted as his brother's prosector for his anatomical lectures. He spent the summer of 1749 at the Chelsea Hospital, under the instruction of the celebrated Cheselden, who was then nearing his grave; and in 1751 he became a pupil at St. Bartholomew's, where he received instruction from the renowned Percival Pott, another luminary of British surgery.

It was at this time the desire of his brother William that John should become a physician rather than a surgeon. With this objective view, John was persuaded by William and other friends to enter as a student St. Mary's Hall, Oxford, in 1753. He remained there but a short time, having now fully determined that he would spend no more time in the study of Latin and Greek.* He looked upon such studies as a waste of time; and, in referring to the subject some years afterward, he thus feelingly expressed himself: "They wanted," he said, "to make an old woman of me, or that I should stuff Latin and Greek at the university; but," added he, significantly pressing his thumb-nail on the table, "these schemes I cracked like so many vermin as they came before me." One can not but regret that Hunter did not carry out the wishes of his friends. A little "stuffing" of Latin and Greek would have been of vast benefit to him in preventing those errors of style and literary composition which so greatly disfigure and obscure his writings.

Hunter once more returned to his surgical studies, and we find him at St. George's Hospital in 1754, where two years later he was appointed a house surgeon. He, however, occupied this position only for a brief period, when, having received an appointment as staff surgeon, he went with the army to Belleisle, an island off the western coast of France, while the following year he participated with the English army in the Peninsular war. He returned in 1763 to London and resumed the practice of surgery, having profited greatly by his extensive military experience.

He added steadily from this date new laurels to those which he already possessed, gained in reputation and power, and soon after became recognized as the greatest surgeon of his age. His surgical writings show him to have been possessed of considerable originality and most excellent powers of observation. He wrote a *Treatise on Venereal Disease*, and likewise a *Treatise on the Blood, Inflammation, and Gunshot Wounds*. The former work contains such a clear and accurate description of the primary lesion of syphilis that it has since continued to be known as the true or Hunterian chancre.

The most distinguished surgeon of France in the eighteenth century was Jean Louis Petit, the inventor of the screw tourniquet, still in common use. He wrote the first *Treatise on Diseases of the Bones*, which was soon translated into several languages. Another French surgeon, Pierre Joseph Desault, who lived during the latter part of this century, did much for surgery. He invented many surgical instruments and appliances, some of which are still used and continue to bear his name. It is likewise claimed that he was the first to give a systematic course of lectures on surgical anatomy, and clinical lectures on general surgery.

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* *History of Medicine*, by Dunglison, p. 262.

† *Ibid.*, p. 262.

* *John Hunter and his Pupils.* By S. D. Gross, M. D., LL. D., D. C. L. Oxon., LL. D. Cantab., pp. 14 *et seq.* Philadelphia: Presley Blakiston, 1881.

A *General System of Surgery*, written by Laurence Heister, who was born at Frankfort-on-the-Main in 1683 and died in 1758, has rendered his name illustrious and kept it from perishing to the present time. He gained the reputation of being an accomplished army surgeon during the war between the French and the Dutch in Flanders, which lasted from 1707 to 1709. This work on general surgery was handsomely illustrated and published in several languages.

The distinguished English surgeon and author, Percival Pott, who was born in 1713 and died in 1788, gave us some of the most valuable contributions ever made to surgical pathology and practice.

His *Chirurgical Works* are contained in three handsome octavos. His classical and vivid description of caries of the vertebræ and spinal curvature caused his name to be affixed to this morbid condition. Pott's disease of the spine can never be forgotten while the English language is spoken or read.

We have traced our noble profession from the dim mythological ages, when the gods alone were supposed to possess the power of healing the wounded, down through the pagan civilization to the formation of the Alexandrian school, which, one hundred years before the birth of Christ, shed a grand meteoric light over the world, the true effulgence of a grand science; have followed it through the dark ages, when it struggled fiercely against the ignorance, greed, and fanaticism of the "Faith Curists," and likewise against the wicked superstitions of a belligerent and benighted populace; have pointed out the beacon lights which were erected by our *confrères* in mediæval times, and have now reached the commencement of the nineteenth century, the brightest period which has ever had an existence since the world was created. We stand in the position of a traveler who has wandered through the virgin forests, beheld the grandeur of an ancient Oriental city, traversed the quagmires of a dark and dismal swamp, emerged into a rural and sparsely settled district, where he beheld an occasional flickering light; but, pressing forward, he now stands within the suburbs of a great metropolis, where he beholds, by the aid of the brilliant electric lights, the grandest structures erected by modern civilization.

Would that I possessed the power of a Homer, Virgil, or Milton, that I might immortalize these men who have made surgery what it is in 1890; but, alas! I have neither the power or space in which to do justice to the many grand heroes of the present age, and must therefore content myself by merely mentioning the names of a few who have been the pioneers in the grandest work the world has ever known. The names Dupuytren, Roux, Lisfranc, Velpeau, and Nélaton, of France; Abernethy, Cooper, Brodie, Fergusson, and Laurence, of England; Colles and Hamilton, of Ireland; Bell, Syme, Liston, and Simpson, of Scotland; Graefe and Rust, of Germany; Scarpa and Porta, of Italy; Physick, Mütter, Pancoast, S. D. and S. M. Gross, of Philadelphia; Wright Post, Kissam, Rodgers, Watson, Stevens, Mott, Van Buren, Parker, Sands, Wood, Little, Carnochan, A. C. Post, and Sims, of New York; Nathan Smith, of New Haven; the Warrens and Hayward, of Boston; N. R. Smith, of Baltimore; Warren Stone, of New Orleans; Dudley, of Lexington; Brainard, of Chicago; Eve, of Nashville; Hodgen, of St. Louis; and James Cabell, of Virginia, are now numbered with the noble dead, while there yet remain with us some of the grandest, noblest pioneers, and most distinguished surgeons the world has ever known. I can not, therefore, do justice to the surgical progress of this century without mentioning these names. Among this long list of distinguished names I can not refrain from mentioning some of our European *confrères*, although I shall enter more fully on the work done by Americans, since we all naturally feel an especial interest in our countrymen. Germany has produced during this century some of the most distinguished surgeons the world has ever known, and among those names already immortal are Virchow, who has given us the best work on *Cellular Pathology;* Billroth, the best on *Surgical Pathology;* and Esmarch, the best *Hand-book on Military Surgery.* However, the fame of Billroth and Esmarch does not by any means entirely rest on these valuable publications, since the boldness and originality of their surgical procedures have likewise electrified the world.

The commencement of this century found America without any really distinguished surgeon, without a surgical literature of her own, and without colleges in which to educate her own students. She was at this period almost entirely dependent on Great Britain for the education of her sons in medicine, and our medical literature was likewise principally obtained from the same source. It is likewise true that in no part of the civilized world had surgery reached a high degree of perfection, but America had just emerged from a long revolutionary struggle and started forth among the independent nations—she was now compelled to provide for her own wants. This fact undoubtedly prompted her to put forth her best efforts. The trying ordeals through which the colonies had passed in their long and murderous wars with the Indians, followed by the revolutionary struggle of seven years war with England, had produced a bold and hardy race of pioneers, who were prepared to attempt anything which offered even the slightest chance of success. The women possessed fortitude and courage, and were prepared to suffer pain, if it only offered an adequate reward. It is not therefore surprising that in the autumn of 1809 Mrs. Crawford, who was suffering from an ovarian tumor, approached the unpretentious house of Dr. Ephraim McDowell, at Danville, Ky., and there submitted to an ovariotomy—the first operation of this kind *ever performed*, but an operative procedure which has already been repeated many thousand times with the most happy results. Mrs. Crawford recovered and lived many years in the full enjoyment of health and with entire freedom from pain. This operation was subsequently repeated several times by Dr. McDowell, who, we are informed, saved the lives of eleven patients out of thirteen. Thus began an operation which has added thousands of years to the lives of civilized women, and saved them from untold misery. McDowell, however, did not escape the sad fate which awaits every bold innovator in science. His fate in this respect was no better than that of the immortal Jenner, who was assailed by his own professional brethren, the ministers of the gospel, and the public press. Poor McDowell carefully prepared a report of this operation for publication in a medical journal which was edited by a personal friend and professional brother, carried it to him with his own hands, and requested this *now unknown* distinguished functionary to publish the same. The manuscript was in due time returned to the immortal McDowell, to whom it was suggested in a very friendly way that he ought never again to attempt the performance of this barbarous operation, the which had not even been recommended by the most distinguished surgeons of the world. It was likewise added by this friend and distinguished editor that the "publication of your report of this case would endanger the safety of my journal and be ridiculed by the entire profession." This rebuff probably deterred him for a time from making any further attempts at publication, since the earliest publication made by him on this subject was in 1817. The performance of this operation was at first ridiculed in England, but soon afterward he was given full credit for the same. Thus time rights these grievous wrongs and genius receives its just reward.

It was not until near the middle of the nineteenth century that the grandest achievement recorded in all history was consummated by the discovery of a potent and, at the same time, comparatively safe anæsthetic, which enabled surgeons to say to the most horrible agonies attendant on the performance of surgical operations "Begone!" when his words were promptly followed by a deep sleep, as if uttered by Jehovah himself, and the same condition continued at the will of the operator until the operation was completed.

The patient is then called back to life—a performance which approximates even, in the grandeur of its power, the miraculous raising of the dead. No discovery ever made in the arts or sciences possesses a value which can in any way be compared with that of chloroform and ether. It is *the priceless gem* to suffering humanity. What would not a rational man pay for the relief which these agents afford during the performance of a painful surgical operation? The king would surrender his realm if this priceless boon could not be obtained for a less consideration under such circumstances, and the miser would give up his life-long hoardings for it. Let, therefore, the names of Morton and Simpson go down to future generations as the greatest discoverers known in the world's history. Their services to humanity are far more valuable than those of any other discoverers, inventors, or heroes who have lived in any age.

Priority in this grand work belongs to America, since Morton discovered and popularized the use of sulphuric ether as an anæsthetic in 1846, while Dr. Simpson did the same for chloroform in 1847. The use of these agents during the performance of surgical operations marks the commencement of the grandest epoch in surgery. The anæsthetic enabled the surgeon to perfect and make successful the old operations, while it opened the field for the performance of new ones, which could never have been undertaken without the use of this agent. It enabled the scientific investigator to go forward with his vivisections without giving pain. It likewise in this case greatly increased the field of labor, and added at least fourfold to the previous value of these investigations. Brain surgery, abdominal surgery, and gynæcology, which are essentially new departments in the surgical field, could have never had an existence without modern anæsthetics. The experimental work required in these departments could not have been done without their use.

Most of these operative procedures are also absolutely impracticable without the same. The most brilliant progress in surgery the world has ever known has been made since the discovery of modern anæsthetics. This wonderful progress has been so marked as to attract the attention of the laity. Says Dr. W. W. Keen: "This progress is due chiefly to two things—the introduction of antiseptic methods, and to what we have learned from laboratory work and experiments on animals."

It therefore appears that, at the beginning of this century, only two things were required to bring surgery to the highest possible standard. An anæsthetic was needed that the necessary experimental studies might be made on animals; furthermore, that all surgical operations might be carefully and properly performed; while the antiseptic method of wound treatment was required for the banishment of all septic complications. It must be now universally admitted by every careful student of surgery that the introduction of the aseptic method of wound treatment marks an era in surgical progress only second to that dependent on the use of anæsthesia.

The world is indebted to Sir Joseph Lister, of London, who primarily perfected and popularized this method of wound treatment. He has been far more successful than the majority of innovators, since he has lived to see the value of his labors universally acknowledged by the principal surgeons in every part of the world. The marvelous feats performed in brain surgery, relating to the removal of tumors alone, is thus stated by Dr. Keen: "Now, there have been twenty tumors removed from the brain, of which seventeen have been removed from the cerebrum, with thirteen recoveries, and three from the more dangerous part of the cerebellum, all of which proved fatal. Until this recent innovation every case of tumor of the brain was absolutely hopeless."

These successes in brain surgery have been made possible principally by the experimental studies of Ferrier and Horsley, of England; Fritsch, Hertzig, and Goltz, of Germany. In another part of this paper we have mentioned the fact that the first ovariotomy was performed in 1809; but only thirty-five years ago the abdomen was really a closed cavity, and the entrance of the same was even then practically tabooed by every prudent surgeon. Accidental wounds of this cavity, with very few exceptions, terminated fatally. Dr. Keen, in speaking of the success of operative procedures on this cavity, says:* "Mr. Tait has completed a second series of one thousand cases in which he opened the abdomen for the removal of tumors, for abscesses, for explorations, etc. In his first thousand cases only ninety-two patients died (9·2 per cent.), and in the second thousand only fifty-three died (5·3 per cent.).

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* Dr. Keen in *Harper's New Monthly Magazine*, October, 1889, pp. 703 *et seq.*

"In ovariotomy alone the percentage fell from 8·1 in the first thousand to 3·3 in the second. Only a quarter of a century ago the mortality of ovariotomy was but little if at all under 50 per centum. . . .

"Spencer Wells, even with the far larger mortality of his earlier days, added twenty thousand years to human life as the net result of one thousand ovariotomies."

How changed the condition to-day in regard to this cavity, since not a single organ within it is any longer exempt from the work performed by the surgeon's knife! The uterus is now frequently successfully extirpated, gunshot and stab wounds of the intestines are sutured, etc. In this cavity American surgery has led the way, and to Americans surely belong the highest honors. The first case of abdominal section for traumatism was that of Dr. Walters, of Pittsburgh, Pa., for ruptured bladder, in 1862. The first case for gunshot wound of the intestine was that of Dr. R. A. Kinloch, of Charleston, S. C., in 1863. "The elder Gross long since led the way by his experiments on dogs, but we owe our present boldness and success chiefly to the experiments of Parkes, Bull, and Senn—all Americans—who have first shown in animals that it was safe and right, with antiseptic methods, to interfere actively for the health and healing or our patients."

In the department of gynæcology the highest honors ever won justly belong to Dr. J. Marion Sims, of New York, who finally succeeded, after many years of patient and industrious experimentation, in discovering a method by which he was enabled to certainly and effectually cure both vesico-vaginal and recto-vaginal fistulæ. Dr. George J. Fisher says of this great surgeon, who has certainly immortalized his name by his labors,* that "every now and then the world is amazed by the appearance of a genius who, in a few short years, does the work which all previous centuries had failed to do, teaches his lessons well, becomes immortal, and flits away. It is impossible to speak too highly of such a one who has just departed. Gynæcology scarcely had an existence previous to the commencement of J. Marion Sims's brilliant and successful operations for vesico-vaginal fistulæ. There is nothing in the whole domain of surgery at all comparable with this man's contributions to gynæcology. He taught how to effect the absolute and permanent cure of the most distressing and loathsome condition of woman which it is possible to imagine, resulting from the injuries and lacerations incident to difficult childbirth, a condition which the most skillful surgeons had up to that time utterly failed even to ameliorate. Frankly and freely, and without remuneration, to go forth to all the principal civilized nations of the earth, personally and unreservedly to teach the surgeons of the world all his methods, and to establish model hospitals for the benefit of multitudes of afflicted women, furnished an example of broad and generous humanity, and of unselfishness, to which the world had been before a stranger.

"Dr. Sims well merited all the appreciation, admiration, and glory which were rather tardily bestowed upon him. In future the civilized world will never cease to express its unlimited gratitude for his eminent services, and this will be repeated age after age as long as the primæval curse shall rest upon woman, and until she shall enter upon a millennium when sickness and disease shall be no more."

The present high standard of orthopædic surgery is due very largely to the efforts of an American surgeon, who, by his energy and mechanical skill, brought about a reformation in the treatment of these morbid conditions which has yielded the most satisfactory results in these cases. Professor Lewis A. Sayre, of New York, has won the highest laurels in this department of surgery, and may be properly regarded as the father of the present method of treatment of these cases. Dr. Bigelow, of Boston, Mass., has introduced and popularized a method of rapid lithotrity which has attracted much attention in professional circles, and been accepted as a marked improvement over the other mode of treatment.

The limits of this paper forbid that more time should be occupied in bringing forward the grand achievements of a noble profession. Let the aspirant for honors in this field remember that he who enters here, with the full determination of gaining honest laurels, must possess all the qualities of mind and body which would secure fame for him on the field of battle. The battle for honest fame is always a desperate struggle; many must fall by the wayside and be carried to the rear fainting and disappointed; some of these will so far recover that they may, after a while, return to the front to again renew their struggle, while others will be buried in unknown graves, unhonored and unwept.

The moment an aspirant enters a gladiatorial contest for fame he will hear the jeers of the populace, will be confronted by his foe, and will require the courage of a lion. Having already gained the victory, he will then find that his *confrères*, still fearing that a full acknowledgment of the dearly earned laurels, so recently won, may possibly have an injurious influence on their own reputation or business, contrive that to the hero only fair words and no substantial aid will be given. Dr. J. Marion Sims must have fully realized the force of all these facts when he came to New York, after having patiently studied gynæcology for years, when he demonstrated to Dr. Valentine Mott and others the methods by which he was enabled to heal vesico-vaginal fistulæ, and performed several operations in their presence which resulted in perfect cures, *since still they would not consent* to join with him in the establishment of a female hospital where he could have an opportunity of carrying forward his humane work. Poor Sims, in this moment of despondency, came in contact with a true friend, a newspaper man, who said to him, "*You shall succeed; your mission is a noble one, and you are worthy of success.*" The good Samaritan called a public meeting, which was attended by the best people in New York city, except physicians, who were especially conspicuous by their absence. The charitable designs of Sims were fairly presented, as well as the great value of his recent discoveries to suffering humanity. This meeting resolved that Dr. Sims should have an opportunity to go forward with his noble work. The following morning the newspapers gave a full report of the doings at this gathering. The effect of this report on the distinguished surgeons was magical. They promptly drove to Dr. Sims's residence and congratulated him on his prospects, magnified the value of his discoveries, and proffered their assistance. *His laurels were won and his worth was duly acknowledged.* These points have been brought forward to illustrate the difficulties with which all great advances have to contend. Dr. Sims's trials and difficulties were no greater than those which have obstructed progress in all former times. The following question now presents itself for our consideration: Is fame worth the effort? We all recognize the fact that Dr. Sims has erected over his bones an imperishable monument; but this is *no reward* for the great effort which he put forth. However, there is another and far nobler result which he has accomplished. His labors will, for ages yet to come, prevent thousands from suffering untold agony.

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* *International Encyclopædia of Surgery*, vol. vi, p. 1201.

In this light we behold him as the benefactor of the whole human race, entitled to their sincere homage, and one who should be glorified on earth. Labor in such a field is the grandest in which any human being can ever engage, while death in such a cause raises a man almost to the level of the gods. The old pagan civilization fully recognized this right, and he who became distinguished as a mighty healer of the sick was henceforth classed among the gods. Let us so far imitate this worthy example as to dedicate the temples erected for the healing of the sick and wounded to the men in our own noble profession who have immortalized their names on earth by their untiring efforts in behalf of suffering humanity. Let honor be given to whom honor is due. Then we shall see hospitals bearing the names Paré, Hunter, Morton, Simpson, McDowell, Lister, Sims, Gross, etc., instead of those of "faith-curing" monks and questionable saints, who lived in the dark ages when ignorance and superstition won all the prizes.

Original Communications.

THE AFTER-TREATMENT OF OBSTETRIC CASES.*

By WILLIAM B. WOOD, M.D.

FROM series of observations and tests which need not now be detailed I some years ago became convinced that the number of cases of confinement in which the cervix was torn was really much greater than any published average. I now believe that slight lacerations at least occur in every confinement. The cases upon which this conclusion is based include many that have been handled by the best obstetricians in New York, than whom, as a class, there are no better in the world.

The reason why many of these lacerations are unnoticed and unrecorded is because nature so rapidly repairs such damage that the lesser tears are already healed before the usual time for making an examination. Even more considerable lacerations often escape detection until serious secondary symptoms undermine the woman's general health and send her to the specialist to undergo heroic methods of repair.

For five years I have worked upon the theory that if the minor lacerations, which are to be found immediately after labor, are so kindly and rapidly healed, the more serious ones would also heal if the wounds could be kept long enough in conditions favorable to such repair.

Under a proper system of treatment not only will there be healing of fresh lacerations, but long-standing and troublesome tears may in a later confinement be encouraged to heal, and will, as effectively as if by an operation, disappear. The history of several of the many cases in which such late union has been successfully accomplished will be published later. I need now say only that, under the system of treatment pursued, not only in no case has a fresh laceration remained ununited, but lacerations that were extensive and of long standing have, after being stretched and freshened by a second confinement, come together in such healthy union that it would require an expert to detect that the woman had ever been pregnant.

If I am right in my conclusion as to the great number of cases in which lacerations occur, then the importance of any method that shall obviate permanent injury is manifest. That lacerations are more frequent than was once thought possible is now accepted by all authorities in gynæcological science. The physician who declares that no patient of his ever had a laceration, and he who proclaims his thousand women confined without a torn uterus, now receives only ridicule for his boasting, while the rest of the profession struggle to heal the rents in the uteri that were so loudly declared unlacerated.

The old-fashioned argument was that nature never would make such bungling work of a normal function, and therefore if the uterus was torn it must necessarily be the fault of the accoucheur. The case of the savage was also frequently brought into the question, and her easy delivery given as an evidence of what nature could do if there were no medical interference. Now, however, we know that the best skill can not prevent, but only moderate and control, the extent of lacerations, and that the labor of the savage, who steps aside from the line of march, drops her infant, and then walks on with it in her arms, has little more relation to the labor of civilized woman than the dropping of a calf or colt. The fact that is pertinent to the present question, and which is quite sufficient to explain why civilized have more difficult labor than savage women, is the well-known law in comparative anatomy that as races advance into higher development the cranium increases in size, while the pelvic frame as steadily diminishes. With increased circumference of the infant's head and diminished aperture of the mother's pelvis difficult labor is the penalty race and individual pay for their civilization.

Any consideration of the final outcome of this state of ings, or discussion of its remedy, is apart from the branch the subject which we now have to consider; but the fact mains as an indisputable law in development, and entails *esent* injuries to child-bearing women which demand *pres-* *t* remedies that shall make severe surgical operations un- cessary, or at least infrequent, and shall lessen the sum accumulated evils that afflict so large a proportion of e women who have been mothers.

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* Read before the Section in Practice of Medicine of the New York Academy of Medicine, May 20, 1890.

Outside of lacerated cervix, no other one cause of dis- mfort consequent upon confinement is so universal and stinate as arrested involution. Both these evils can be ade to yield to the one system of treatment which I have lopted as a regular routine in all puerperal cases, and hich five years of trial have convinced me will give brill- nt results in the hands of any careful practitioner.

Under favorable and in uncomplicated conditions the erus returns to its normal size and weight not sooner an in from six to ten weeks. Dr. Lusk says that at the d of the second week after confinement the average eight is three quarters of a pound, the length is five ches, and the walls are barely half an inch in thickness. e vagina is still much relaxed, as it requires three or ur weeks for it to regain its normal dimensions.

The increased size and weight of the uterus, the re- xed condition of the uterine supports, the flaccidity, in- sticity, and engorgement of the deeper portions of the gina and the pelvis, according to the best authority, exist the majority of cases from six to twelve weeks, and even nger in women in whom the intellectual powers have been veloped at the expense of the physical.

Yet it is in the second week, while the uterus is of five six times its usual weight, with the deeper lacerations ll unhealed, that most women assume the upright position d resume their active occupations. As a result, the uterus ops low down or tips out of its normal position, thus by essure retarding the return circulation and putting the axed uterine appendages upon a dangerous stretch. The healed surfaces at the mouth of the uterus are forced art by the downward traction, and the ununited edges of e laceration heal wide apart, leaving the woman with a rmanent tear, which a greater degree of caution could ve prevented. In this condition, with uterus perma- ntly over-heavy and over-large, lying crowded low down displaced, the tubes swollen and sensitive, sagging down hind the uterus, between it and the rectum, the woman n hope for neither good health nor average usefulness. e evils that follow from this condition, which is classic, universally recognized by the profession. They have en most vividly and accurately summed up by Dr. Em- t in his work on *Gynæcology*. I believe they can be oided by increased care and prolonged treatment during d after the puerperal period.

The patient should before confinement be educated up a conception of the importance of submitting implicitly the directions given. Even in normal conditions of the rus the supports are too frequently inadequate to hold t organ in place. The human race has not yet, in the ocess of evolution, perfectly adapted itself to the upright itude; only in the genu-pectoral or quadruped position does the human uterus have perfect support; when, therefore, the puerperal condition overtaxes these already inadequate supports, they almost invariably fail to perform their natural function.

The first requisite, therefore, of a successful treatment is to keep the uterus well up until involution and healing are complete; otherwise both are arrested

After confinement the mother should be kept in bed for four weeks. The recumbent position should be strictly maintained for from fourteen to twenty-one days, the patient being allowed to lie upon the back, face, or side, but never to assume the upright posture. At the end of twenty-one days an examination should be made with the patient in either the Sims or genu-pectoral position, great care being taken not to stretch the perinæum.

After twenty-one days, hot injections, given after Dr. Emmet's method, may often be used to advantage, but should not, in my opinion, be employed where there have been extensive lacerations which are still unhealed, as the hot water, given in long injections, renders more difficult the union of the surfaces, which will sometimes unite, provided the recumbent position be so long maintained, as late as the fifth week. If at the end of the fourth week the condition of the cervix is satisfactory, the patient may safely be allowed to get up; but never on any condition without first having the still over-heavy uterus supported by well-adjusted pads. The patient is placed in the genu-pectoral position, prepared pads of surgeon's wool dipped in boroglycerin are packed in under and behind the uterus to hold it in normal position and to relieve the relaxed appendages of the extra weight. In from five to eight weeks after confinement the uterus will, in favorable cases, with this assistance, have returned to its normal condition, and will remain in natural position without artificial support.

The physician should, however, examine the patient once a month for a year after confinement, to assure himself that no displacement has been brought about by accidental causes. Many maintain that women will not be at so much trouble, and will not afford the physician an opportunity to follow cases such a length of time; in hospital and charity work they usually will not and can not, but the class of women met with in private practice will, if their physician educates them to a realization of the importance of such caution in its bearing upon their whole future state of health. In my experience there are few women who will not cheerfully submit to any course of treatment that obviates the necessity for an operation.

Let a woman who has serious laceration of the cervix and who contemplates submission to the surgeon's knife come to learn that there is a possible and simpler remedy after and through a second confinement, the success of which remedy depends upon her strict obedience to directions, and there is small danger of any rebellion on her part, even though you prolong the four weeks in bed to eight, as is occasionally necessary. The greater part of a physician's duty is to educate his patients to an intelligent comprehension of and rational co-operation in his methods of treatment. The day for dogmatic dicta is past.

The favorable reflex influence that nursing has upon the pelvic organs is an important element in stimulating them to return to normal conditions. When, however, lactation becomes a drain upon the general vitality of the mother, this unfavorable condition more than counterbalances the favorable stimulation which the uterus thus receives. There is a large class of women with highly developed nervous systems who begin to show the drain of lactation as early as from the third to the twelfth week after confinement. In such cases the whole surplus vital energy is absorbed by the lactative function and the all-important reparative process in the uterus and its appendages is checked, and, unless the nursing is promptly discontinued, is permanently arrested.

With the improved methods of sterilized feeding there is little risk to the child in weaning it from the breast, while there is, in certain conditions, great risk to the mother in continuing to nurse the babe.

When all is said about confinement, its complications and evil sequences, the increase of the difficulties caused by advancing civilization and the artificiality of town life are really more than counterbalanced by the remarkable improvement in gynæcology which has been made during the last decade; so that the death-rate both for women in childbirth and for new-born children is actually decreasing rather than increasing.

Antisepsis has eliminated the most dreaded elements of childbirth; surgical skill is now able successfully to repair, immediately after the termination of labor, injuries to the vaginal outlet, and it only requires that we should adopt a system of after-treatment that will prevent arrested involution and permanently lacerated cervix to do away with all the most common undesirable results of confinement, and remove to a great degree the dread of childbed, which with some otherwise reasonable women amounts to a mania.

22 East Forty-first Street.

TWO CASES
SHOWING THE TREATMENT OF LEPROSY:
(1) BY EXCISION OF TUBERCLES;
(2) WITH OINTMENT OF RED IODIDE OF MERCURY.

By BEAVEN RAKE, M. D. Lond.,
MEDICAL SUPERINTENDENT OF THE TRINIDAD LEPER ASYLUM.

The Treatment of Early Leprosy by Excision of Tubercles.

The treatment of tubercular leprosy by excision has been somewhat fully discussed in the *Asylum Report* for 1885, and also in an article in the *British Medical Journal* (June 9, 1888, p. 1214). I do not propose, therefore, to add very much here to what I have already written, but simply to describe a very early case in which I had the opportunity of trying excision.

Ernest Berrington, negro, aged eight, was admitted to the asylum on June 3, 1889. I had previously seen him as a private patient, and urged his coming in for operative treatment.

His condition on admission was described as follows: On the left cheek is an isolated circular mass of tubercles about an inch and a quarter in diameter. Round it are small tubercles of about the size of peas. On the nose and right cheek are several solitary tubercles the size of small shot.

There is a solitary tubercle of the size of a pea above the right elbow. The fingers are rather swollen.

The skin over the shins is tense and copper-colored. There are several small tubercles on the left calf and above the left knee. Soles are anæsthetic; femoral glands on both sides and axillary on right side are enlarged. The disease began with an eruption of tubercles on the left cheek about eighteen months ago.

June 10th.—Was given chloroform, and with a very sharp knife the mass of tubercles was shaved off the left cheek. Then fuming nitric acid was rubbed in, and afterward tannin applied. The small isolated tubercles on both cheeks, forehead, chin, both legs, and above right elbow were similarly treated.

12th.—Sites of isolated tubercles covered with scabs whicl have sunk in. On left cheek is a large scab and some discharge. The sores are being dressed with pure creolin. Patient was ordered liquor hydrarg. perchlor., ʒj; inf. quassiæ, ad ℥j. t. i. d.

July 10th.—Face nearly healed, but fresh tubercle has appeared under right eye and also under left eye.

From this date the tubercles have gradually increased botl in the sites of excision and elsewhere. On two occasions the have been inoculated with leprous cultures, with the result o setting up a certain amount of ulceration in the tubercles, no materially checking their progress. At the present time th mass of tubercles below the left eye is ulcerating, and the tubercle above the right elbow is scabbed over, but still increasing.

I am always on the lookout for early cases of leprosy for it is to them that we must look for any success in treatment. I hoped that free removal with a sharp knife, fo lowed by the thorough rubbing in of fuming nitric aci and the use of large doses of mercury internally, might a rest the disease. Leloir has taken up the same idea th leprosy may be a purely local growth at first, and so con plete destruction of tubercles may prevent a general invasio of the economy. In favor of this I may cite my failure ev to find bacilli in the blood of lepers at any stage of the di ease, or to cultivate them from leprous blood. The trea ment by excision will certainly be worth trying again, in still earlier subject if possible.

The Treatment of Tuberculated Leprosy by Red-Iodide-of-Mercury Ointment.

Raymond H., negro, aged eight, was admitted to the asylu on September 16, 1889. He had been suffering from tuberc lated leprosy for some years.

His state on admission was as follows: Numerous tubercl of the size of small shot on forehead, cheeks, chin, and ea Few small pale-brown patches on back.

General swelling of forearms, hands, and fingers, also of le feet, and toes. Pale-brown, raised, shining masses near elbo and knees. Sensation perhaps slightly lessened in fingers a toes, but this appears to be due to thickening of tissues. C vical, axillary, and femoral glands enlarged.

September 18th.—Ordered ung. hydrarg. iodid. rubr—c application to be made to the whole body and extremities.

25th.—Desquamating freely after one application. Num of separate tubercles on face and ears seems less. To have other application to-night.

27th.—Face swollen, puffy below eyes. Not salivated.

October 2d.—Not much change in tubercles of face since last ne. Repeat ointment to-night.

16th.—Small tubercles of face about the same, also swelling extremities. Repeat ointment to-night.

23d.—Skin peeling from face and neck. Tubercles about e same. Hands and feet swollen. Not much evidence of tment on extremities.

28th.—Was rubbed with ointment again last night. Face ittle swollen, but less effect than at first.

November 8th.—Tubercles increasing on ears, cheek, fore-ad, and chin. Repeat ointment to-night.

11th.—Blisters on back from ointment. Face swollen. Some ivation. Tubercles have increased on face. Large lumps er angles of jaws.

As in this case the disease took the form of a general filtration of the extremities, with a few small tubercles on e face, it was thought that a strong germicide ointment, e red iodide of mercury, might succeed in killing the cilli and reducing the infiltration and tubercles. At first ere seemed to be slight improvement, but after a few ap-ications the ointment lost its caustic effect on the skin, ough in the end salivation was set up and the remedy scontinued. Tuberculation is now progressing in the tient.

TRAUMATIC ANEURYSM OF THE INTERNAL MAXILLARY ARTERY.

COMPRESSION; RECOVERY.

By WILLIAM C. KRAUSS, B. S., M. D.,
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E CHAIR OF CLINICAL MEDICINE, NIAGARA UNIVERSITY MEDICAL COLLEGE,
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J. McH., aged thirty-four years and one month; single; ight, one hundred and seventy pounds; height, five feet ven inches; occupation, painter; constitution, strong, robust; tecedents—parents both living and healthy, offering no he-litary taint of any kind; no history of syphilis, tuberculosis, oholism, or rheumatism.

Early History.—No infantile diseases. Patient has always en a healthy man with the exception of an attack of lead lic which occurred three years ago. Was obliged to sus-nd work for three months. No palsy or cerebral symptoms ervened, and the attack passed off without any apparent quels.

Present History.—In the afternoon of August 23, 1889, as e patient was at work on a staging sixteen feet high, it sud-nly gave way and he was precipitated to the ground. His npanions say he fell backward, striking upon the left side of head. He was picked up unconscious, having received sev-l contusions, the largest being over the left temporal fossa; fractures or dislocations were recognizable. After a lapse of eral hours he regained consciousness, and complained of usea, vertigo, and syncope, which continued for some time. noticed no peculiar sensation about the head except a dull, avy ache, and some pain over the left temporal fossa, which s swollen and quite sensitive to touch. He retired early that ening, his sleep being much disturbed owing to pain and ex-ement. The following morning he was awakened from a ort sleep by a hissing noise which seemed to come from the low, and which the patient thought was produced by a snake. s search through the pillow and bedding revealing nothing, concluded that the noise was in his head, and more especially in the ears. Being unable to stop the hissing sound by plugging the ears, he consulted a physician, who applied blisters behind the ears and ordered aural douches.

The patient, experimenting upon himself, found that by several manipulations he was able to control the sound temporarily: by holding the breath for a time, the bruit would grow fainter and disappear entirely, but on respiring would reappear; pressure over the left temporal fossa and on the neck (carotid) would intercept the noise; biting the teeth firmly together would also stop the sound for the time being.

The sound is described as a hissing, at times squeaking noise, continuous by night and day. Exercise increases its intensity and rhythm; rest, on the other hand, diminishes the same. At night it seems to grow more impetuous, owing no doubt to the stillness of the surroundings. No other subjective symptoms are noticed except a dull, heavy feeling on the left side of the head, and at times a slight vertigo.

The patient consulted me for the first time August 30, 1889, and gave in substance the foregoing history. On subjecting him to a careful examination, the following objective symptoms were obtained: There is present a slight swelling at the junction of the malar and zygomatic process of the frontal bone, with some discoloration. An impulse is perceptible under the finger, diffused and feeble, simultaneous with the radial pulse. The anterior and posterior temporal arteries can be distinctly traced from their points of origin to some distance mesad, and show no irregularity. Percussion of the cranium gives a negative result, save a dull, heavy pain over the left temporal fossa and malar bone.

Auscultation.—A stethoscope applied over this region elicits an interrupted, sharp, hissing bruit, synchronous with the apex beat, having its point of greatest intensity about an inch dorsad of the external canthus of the left orbit. The bruit is less intense over the temporal fossa, and less distinct over the left upper side of the head. On the right side the bruit is also audible, but much less distinctly.

Digital pressure over the external carotid artery at the inferior posterior angle of the inferior maxillary bone produces a complete and sudden cessation of the bruit; pressure over the common temporal artery over the malar bone does not alter the bruit in character or intensity. The stethoscope, when applied with some force over the left temporal fossa, intercepts the bruit. An examination of the ears shows congestion of the membrana tympani on the left side; examination of the eyes and mouth gives a negative result.

The diagnosis, based upon the objective symptoms, is that of a deep-seated aneurysm situated in the left temporal fossa, which by exclusion is shown to be of the internal maxillary artery or one of its branches. The patient was presented before the Buffalo Pathological Society, November, 1889 (*Buffalo Med. and Surg. Journal*, December, 1889, p. 292), and the diagnosis confirmed.

The treatment of the case has been with ergot, iodides, and light cathartics. The bruit seeming to grow more intense, it was proposed, if pressure proved of no avail, to resort to a surgical operation—that of tying the left external carotid artery. The patient being averse to operative procedure, a U-shaped spring with pads at both ends was applied to the head, so that one pad rested in the left temporal fossa. This spring was applied every night for a period of ten weeks, and resulted in the complete cessation of the bruit (February 6, 1890) and disappearance of all subjective and objective symptoms. The patient is now capable of doing all kinds of work coming within his domain without the least disturbance or annoyance, and considers himself perfectly cured.

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A SENSELESS PANIC OVER LEPROSY.

From this week's report of contagious diseases in New York it will be seen that a case of anæsthetic leprosy has been reported. The patient is a young man, aged twenty years, a native of Central America, who has been attending school in this country for more than a year. The symptoms of the disease did not appear until after an attack of influenza during the past winter, and at first the true character of the complaint was not recognized, but when a definite diagnosis was made and the case reported to the board of health the patient was forcibly removed, by order of the board, to North Brothers Island.

We must deprecate this action of the board, that seems based upon the fear of leprosy that probably most persons entertain as a result of biblical reading. Why should the treatment indicated in Leviticus be followed in this disease, while many of the other sanitary injunctions of the Old Testament are properly ignored? Should our treatment of such cases be traditional or scientific? True, this action of the board has two precedents in this country; one, the instance in which the Philadelphia Board of Health exercised its authority in forcibly confining two lepers in 1888, and the other the one in which in St. Louis an unfortunate leper was taken from his friends by order of the local board of health and confined in a lazaretto until he died. In the latter case a slight effort was made to secure the release of the patient by habeas-corpus proceedings; and the tenor of the popular impression regarding the disease can not be better illustrated than by the fact that there was a stampede from the court-room, even the wearer of the judicial ermine sharing in the fright, when it was learned that the leper in person had been brought into court. Had a consumptive been brought into the room it is needless to say that no such alarm would have been created; and yet, conceding the most ultra virulence to leprosy and the justifiability of the most extreme views held by lepraphobists, it can not be held that the disease is as contagious as tuberculosis, or that it causes even a small percentage of as many deaths as the latter.

The sanitary regulation authorizing inspectors of the Marine Hospital Service to exclude leprous immigrants is an excellent one, because such persons will probably become public charges. Nevertheless, even with this regulation, we doubt if an American citizen could either be legally excluded from the country or be confined as a virtual prisoner in a lazaretto, because he had unfortunately acquired leprosy during a residence in certain foreign countries. At a recent meeting, in June last, of the representatives of the State and local boards of health, at Nashville, an effort was made to obtain the adoption by that body of regulations requiring the isolation of lepers in the United States. The evidence that supported the theory of the acute contagiousness of leprosy in this country was considered so inconclusive that this association of experts declined to adopt the regulations advocated by one or two radical members.

In Minnesota, South Carolina, Florida, Louisiana, and California there are cases of leprosy. In the last-named State the patients are principally Chinese, and, on account of the susceptibility of that race to the mild contagion of the disease, lepers are isolated. But in none of the other States named has any attempt been made to isolate the patients; yet there is no evidence that the disease has increased in any of them during the past century, and there is but a single authentic record of the disease being acquired by association in this country. This latter case was in a Roman Catholic priest attending leprous patients in Charity Hospital, New Orleans; it was supposed tha he acquired it by the custom of inunction of the dying. H was an American Father Damien who received no honors i his own country.

That the *Bacillus lepræ* can cause the disease by inoculation is uncertain, for in the case of a condemned criminal inoculated in 1884, in whom the leprous bacilli were found i the cicatrix in 1885, he did not show signs of general infectio until 1889. Again, consider for one moment the many yea that Father Damien was exposed to the disease before he acquired it. Besides the micro-organism, certain factors of climate, environment, and food seem requisite; possibly, beside what Jonathan Hutchinson has designated as "some ver special kind of poison of rare occurrence taken in connectio with food." Certainly climate exercises a potent influen in keeping the disease in abeyance, as has been proved i cases of Englishmen that have acquired leprosy in coloni possessions and have lived in fairly good health on returnin to England.

To deprive an individual of his liberty is a very serio matter, and, in view of the fact that contagious diseases of f greater danger to public health than leprosy are treated at th domicile, there seems to be no good reason for such arbitrar though well-intended, action as that taken by the board health. If experience with the West Indians that are the lepe in Florida, the Acadian descendants that constitute the Loui ana lepers, or the Norwegian lepers in Minnesota, justified belief in a danger to this community in permitting this patie to reside with his family, the case would be different. But cite the illustration of a primitive people like the Sandwi Islanders, that have been successively decimated by contagio diseases, and in every way shown their inability to resist d eases less noxious to the white race, or of the unsanitarily si ated natives of India, as reasons for our better-circumstanc population fearing the spread of a disease that occasiona presents itself among us, is to ignore the therapeutic resour of our profession—for cures of lepers have been reported—a to place as naught the hygienic advantages of civilized comm nities.

THE HARLEM ABORTION CASE.

A case of criminal abortion that has lately come to light in rlem presents more than the usual array of horrors; fortu- cly, by that very fact it is likely to prove useful among the nmunity. The public prosecutor expects to prove that a girl ained, or her lover obtained for her, the ghastly services of hysician to assist her in avoiding maternity, and that she d in consequence of his interference. The physician is a nsed practitioner, but his name does not appear in the *dical Register*, and it is stated that he has previously been ler what the police considered well-grounded suspicion of having been concerned in the criminal production of abor- n. The special features of horror in the case are said to be t the girl was taken to a squalid tenement, where she had ody to nurse her but a repulsive woman employed by the tor; that, after she had died, her remains, wrapped only in old quilt, were carried by the doctor himself, at dead of ht, to a complaisant undertaker's shop; that this undertaker ained a burial permit on the doctor's certificate that the l's death had resulted from rheumatism of the heart, the ne assigned to the deceased being fictitious; that she was ied secretly, the fact of her death being withheld from her tives; that the story of the wrong that had been done her ne to light only after some very clever detective work based a conversation casually overheard by an officer on an ele- ed railway train; and, finally, that the poor creature's dead ly was exhumed, subjected to a medico-legal examination, l held until it had advanced so far in decomposition as to be ght that the coroner's jury found sickening.

This is indeed an atrocious case. That the public appre- es its atrociousness is shown by threats to lynch the old tor. It is idle to hope that contemplation of the case will e any considerable deterrent influence on the monsters who ke a practice of criminal abortion; they will simply chuckle congratulate themselves that they are not such blunderers he doctor in this case has shown himself to be. But the on can not be wholly lost to the community. We have no ectation of seeing the public conscience perceive the fact t criminal abortion is always murder, whether the woman ishes or survives; but what we do expect is an increase in number of those who appreciate the terrible risk insepara- from recourse to induced abortion, and consequently will every means to avoid the crime for fear of the consequences. s, of course, can not be accounted a gain to public morality, its natural results must, nevertheless, conduce to the public ety. What we should like to see established as an adjuvant some provision whereby indiscreet women who find them es pregnant out of wedlock may be assured of decent sup- t and secrecy until they are relieved of their embarrassment the birth of a full-time child and recovery from the disabili- of the lying-in period. We believe that institutions for purpose, properly managed, would do more to break up the rid practice of abortion than all the eloquence that has ever n brought to bear in picturing its immorality.

MINOR PARAGRAPHS.

INTUSSUSCEPTION TREATED WITH THE AID OF BARNES'S BAG.

Rivington, of London (*British Medical Journal*), has employed Barnes's bag in the treatment of two cases of intussusception. The first patient was a man presenting a constriction of the rectum and an intussusception of limited extent which could be felt from the rectum. Upon the introduction and inflation of the bag the tumor readily receded and soon disappeared, not to return. The second patient was a child, seven months old, with a history of vomiting and passages of liquid and blood for two weeks. The bowel was found to be prolapsed and the ileo-cæcal valve formed the apex of the invaginated portion. Partial reduction was easily effected, but all attempts at complete reduction by insufflation or the injection of fluid utterly failed. A Barnes's bag was introduced simply for the purpose of retaining the mass. It was removed twice a day to allow of the escape of liquid passages. At the end of two days, without any other attempt at reduction, the intussusception had entirely disappeared. Whether peristaltic action exerted fruitlessly for the expulsion of the bag had assisted in the reduction, or whether it had been accomplished by the collection of gas above the bag, is uncertain. The action of the bag was evidently quite different in the two cases. It would seem to be a valuable adjunct to other methods of treatment in intussusceptions that readily recur on replacement or do not disappear entirely under the use of injections of air or liquid.

ARISTOL IN OZÆNA.

According to the *Lancet*, Dr. Löwenstein strongly recommends the employment of aristol—iodide of thymol—in ozæna. It is said that the fœtor ceases and the ulcerations heal, with consequent disappearance of the scabby crusts. It is given pure in insufflations, and is also used as a collodion (aristol, 1 part; flexible collodion, 10 parts) applied to the ulcerations. It should be kept in dark glass bottles, because it is decomposed by light. Its very slight odor makes it a most desirable substitute for iodoform.

METHYLENE BLUE AS AN ANALGESIC.

In methylene blue that is free from chloride of zinc or other impurity, Professor Ehrlich and Dr. Lippman, says the *Lancet*, have found a safe analgesic that is cheaper than antipyrine and can be administered hypodermically without causing pain. It was given subcutaneously in grain doses; internally from a grain and a half to four grains were given, though fifteen grains a day produced no toxic symptom.

SALOL IN CHOLERA.

In the *Indian Medical Gazette* for September, 1889, Surgeon-Major C. F. Nicholson reported a number of cases of cholera successfully treated with salol. In the May number of the same journal, of this year, Dr. Hehir reports eleven cases of cholera treated with salol, all of which ended in recovery; while among seventy-seven cases of that disease treated with bichloride of mercury, thirty-nine—or 44·7 per cent.—were fatal. Löwenthal's investigations of the germicidal properties of salol on the comma bacillus suggested the practical application of that drug. It was administered every two hours, in ten-grain doses, with fifteen minims of spirit of chloroform. The severe symptoms gradually disappeared, the exosmotic process in the intestinal canal ceased, and the patients retained fluids that were given. There was a shortening of the period of convalescence, with absence of the symptoms of uræmia. In the same journal Surgeon J. Stevenson reports four cases of cholera treated with salol that ended fatally. In only two of the cases did any improvement follow its use. Of course, more extensive statistics are requisite before definite conclusions regarding the utility of the drug in cholera can be drawn.

THE FOUNTAINS OF NEW YORK.

THE supply of water delivered in New York having become abundant for the time being, owing to the flow through the new aqueduct, it has been proposed to set the public fountains going. Some doubt has been expressed, however, as to whether there is yet a sufficient head of water to make them flow to their old-time height. Be this as it may, the new supply is soon to be turned off, according to the announcements made, and held back either altogether or in great part until the work of repairing defects in the new aqueduct is completed—probably for a number of weeks. This being the case, it would be well, we think, to forego the pleasure of seeing the fountains play until an adequate supply of water can be made permanent; then, by all means, let the fountains be put in action.

AN ABUSE OF THE AMBULANCE SYSTEM.

AN odd story is told in the newspapers of one of the hospital ambulance wagons having been summoned three times to convey one man to the hospital, and of its having been sent promptly each time, although on the first occasion it had been ascertained that the case was not of a nature to render hospital treatment necessary. It is said that when the last call was answered the patient was put under arrest, instead of being taken to the hospital, and "sent up" on a charge of having committed a misdemeanor. It seems, therefore, that this course can be pursued in cases of persistent ambulance calls on trivial grounds, but it is hard, if the account is true, that this particular patient should have been the first to be punished, for his friends allege that it was they and not he who sent the calls.

THE PHONOGRAPH AS A DISSEMINATOR OF DISEASE.

IT is reported that the Philadelphia Park Commissioners have ordered the disuse of the public phonographs heretofore in use in Fairmount Park, on account of the danger of their serving to disseminate disease. This danger is doubtless very slight, like that of injury to the ear, and probably neither danger is worth consideration if the instrument is kept reasonably clean and used properly; but its promiscuous use in a public park does not seem to admit of perfect security in this respect, and the announcement that the phonograph company intends to substitute a plate ear-piece for the penetrating one now in use, avowedly for the reason that there are persons who object to the present form, goes to show that the Philadelphia Commissioners are not the only people who entertain the idea of danger in the phonograph.

THE RETIREMENT OF PROFESSOR VON BRÜCKE.

HOFRATH ERNST VON BRÜCKE, who for many years has been the professor of physiology in the University of Vienna, is reported as having given his farewell lecture recently, on reaching the age at which retirement is called for. A number of the other professors formed a part of the audience on the occasion, and, together with the students, cheered von Brücke as he entered the room.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 29, 1890:

DISEASES.	Week ending July 22.		Week ending July 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	24	7	34	8
Scarlet fever	43	7	28	6
Cerebro-spinal meningitis	1	0	5	4
Measles	215	10	156	8
Diphtheria	72	21	75	31
Varicella	7	0	3	0
Leprosy	0	0	1	0

The New York State Medical Association.—The eighth specia meeting of the Fifth District Branch was held at Kingston on Tuesday July 22d, under the presidency of Dr. William McCollom, of Brookly The programme included A Practical Study of the Region of the Spin and Pathological Changes occasioned in it by Traumatisms, by Dr. T. Manley; A Strange Case, by Dr. J. G. Porteous; and A Case of Acut Purulent Pleurisy—Pleurotomy, followed by Rapid Recovery.

The Chicago Polyclinic.—Dr. G. Fütterer has been appointed pr fessor of internal medicine, Dr. F. C. Hotz professor of ophthalmol gy, Dr. E. Fletcher Ingals professor of laryngology, Dr. Charles Stillman associate professor of orthopædic surgery, Dr. P. S. Hay associate professor of electro-therapeutics, and Dr. J. M. Patton ass ciate professor of medicine.

The Death of Dr. R. C. Word, a prominent Georgia practitione took place at Decatur on the 20th of July. The deceased had for ma years been an associate editor of the *Southern Medical Record* a teacher of physiology in the Southern Medical College, of Atlanta.

Dr. Nicholas Senn's Surgical Bacteriology.—A French translati of this very valuable work, by Dr. A. Broca, has just been published

Change of Address.—Dr. A. M. Phelps and Dr. W. O. Plimpton, No. 40 West Thirty-fourth Street.

Naval Intelligence.—*Official List of Changes in the Medical Co of the United States Navy for the week ending July 26, 1890:*

STONE, L. H., Assistant Surgeon. Ordered to the U. S. Receiving-s New Hampshire.

URIC, J. F., Assistant Surgeon. Detached from the U. S. Receivi ship New Hampshire and ordered to the U. S. Receiving-ship bash.

NORTON, OLIVER D., Passed Assistant Surgeon. Granted leave of sence for the month of August.

BABIN, H. J., Surgeon. Granted one month's leave of absence fr July 23d.

Society Meetings for the Coming Week:

TUESDAY, *August 5th:* Hampden, Mass., District Medical Society (Spri field).

Letters to the Editor.

THE WEST VIRGINIA STATE BOARD OF HEALTH.

CHARLESTON, W. VA., *July 23, 189*

To the Editor of the New York Medical Journal:

SIR: The State Board of Health of West Virginia has closed its annual session of 1890. A communication was sented from the State Board of Health of Illinois asking the operation of the State board of West Virginia to raise standard of instruction in the medical colleges and to requi three-years' course.

In accordance with the request, the following preamble and solutions were presented:

"*Whereas*, The growing importance of the careful prepara- on of medical students for entering upon the responsible posi- ons as physicians and surgeons, and as a means of protecting c citizens of West Virginia against charlatans, as well as en- uraging and fostering the laudable efforts of reputable medi- l schools and colleges to raise the standard of medical educa- on; therefore,

"*Resolved*, That the board earnestly recommends that all edical schools and colleges require attendance upon three full urses of lectures, besides satisfactory evidence of preparatory ucation, attested by diploma or certificate from a reputable llege, academy, or high school, and a certificate from a regu- r physician as to a full course of professional study, as requi- e for graduation."

It is mortifying to me to say the board did not carry out the ntiment of the resolutions, which were unanimously adopted. ut of four applicants, two passed. One of them to my certain owledge has never seen a medical college, but professes to ve received some instruction from a gentleman who passed e State board a few years ago. He has a country school acher's education.

The other gentleman has attended one course of lectures, hich is that much to his credit. The code of the State of West irginia says: "The board shall take cognizance of the interests the life and health of the inhabitants of the State," etc., for hich a solemnized oath is required.

Now, I ask how in the name of the profession can the State ard of West Virginia have at heart the welfare of the people ter passing such ill-prepared men, because we all know how orly prepared a man is after he has studied with his precep- r for one year and has attended his two full courses of lect- es, and the board is certainly aware of the same fact, because ey earnestly recommend a three-years' course at a reputable edical college.

And we further know that a man is not capable of practic- g medicine and surgery without first receiving clinical instruc- ns at the bedside by professional teachers. Any man who is fortunate as to pass the State board is entitled to all the ivileges and immunities which are guaranteed to a regular aduate of medicine, and I venture to say that nine tenths of ch manufactured physicians will know less as they grow der. I have not attempted in my remarks to criticise the ard; I simply want to place them before the profession at ge and let it delegate hereafter to them their professional nding.

F. S. Thomas, M. D.

NITRATE OF POTASSIUM IN INTERMITTENT FEVER.

Hillsboro, Ill., *July 22, 1890*.

the Editor of the New York Medical Journal:

Sir: In the *Virginia Medical Monthly* for February, 1890, . J. D. Hunter professes to have made the discovery that trate of potassium will cure ague.

I called the attention of the profession to the antiperiodic operty possessed by this drug in a paper published in the *St. uis Medical and Surgical Journal* in 1859 or 1860, and again the *Boston Medical and Surgical Journal* some time in '63, or '5. I have lost my journals by fire, and therefore can not exact as to date.

I was induced to make a trial of this remedy after being as- red by an old "backwoods" hunter that a large dose of gun- wder (which he usually took in whisky), given at the incep- n of the cold stage, would almost always abort the paroxysm, and that, if there should be any fever, it would be very light. I found this to be true, and at once attributed the cure to the potassium nitrate, and upon trial found I was correct.

When the price of quinine was high it was a most excellent substitute, but, as it lacks the tonic effect, the cinchona alkaloids, at present prices, are preferable.

Amos Sawyer, M. D.

Proceedings of Societies.

RICHMOND, VA., ACADEMY OF MEDICINE AND SURGERY.

Meeting of June 10, 1890.

The President, Dr. W. W. Parker, in the Chair.

(*Reported by Dr. J. W. Hewson, Richmond.*)

A Peculiar Case of Indigestion.—Dr. J. N. Upshur reported the history of a peculiar case occurring in a lady of fifty-four years very much "run down" from mental and physical overwork. The peculiar feature was a severe pain, spasmodic in character, occurring periodically about every ten days. Its seat was about the pylorus and downward and to the right along the edge of the ribs. When the speaker first saw her she had three of these attacks, at intervals of about twelve hours. The first he had relieved in a few hours with morphine and atropine hypodermically, the two last with one fiftieth-grain doses of nitroglycerin, administering it twice for the second, and only once for the third attack. No eructation of gas and water followed the last of the three, as had been the case always before. The general treatment given was a light nutritious diet, attention to the bowels, and a tonic of phosphate of iron, quinine, and strychnine. She had no recurrence of the pain. Nitroglycerin had been suggested to the speaker's mind by the fact that the pain in its acuteness resembled the spasm of angina pectoris. He had much confidence in nitroglycerin for the relief of the œdema, dyspnœa, and cardiac distress of Bright's disease. He had tried it with much success for the temporary relief of aggravated sciatica. Though it was slower in action, its effects were more permanent than those of nitrite of amyl.

Meeting of June 24, 1890.

A Sequela of La Grippe.—The President reported the history of the case of a robust young man who had been afflicted with influenza a short time ago, this being accompanied by an inflammation and considerable swelling of the muscles of the neck, and this in turn being followed by a frightful eruption of vesicular character over the whole body, very much like chicken-pox. It was particularly marked upon the hips and inner side of the thighs, where it resembled and might have been mistaken for confluent small-pox. The eruption continued ten days or two weeks, leaving the extremities first and gradually. There was no fever, very slight constitutional disturbance of any kind, and no itching of consequence.

Singular Experience with Scarlet Fever and Measles.—Dr. W. B. Grey reported in reference to two children, aged respectively two and four years, affected with scarlatina, the older one of whom, just about the commencement of desquamation, developed the eruption of measles. In four or five days the younger did the same. Furthermore, said the speaker, about this time the father, an old man, took scarlet fever.

Hæmatoma Auris.—Dr. Charles M. Shields reported the history of a case occurring in a lawyer of about sixty years of age, and perfectly sound in mind (the trouble very rarely appearing except in the insane). About a month before the appearance of the growth the man had suddenly lost consciousness one day, and, in falling, had bruised the side of his face corresponding to the trouble. The speaker had enlarged an opening found upon the anterior wall of the canal, about half an inch from the external orifice. The cavity into which it led would hold about five or six drachms. The discharge was very offensive. A wash of peroxide of hydrogen was prescribed. From one Saturday night until the following evening the patient had five or six hæmorrhages, losing in all about twenty or thirty ounces of blood. The only resource for perfect control of the flow was packing the cavity with cotton saturated in Monsel's solution. The speaker thought the man would recover, but with a considerable scar.

Dr. M. D. Hoge reported the history of a case of a man who since an attack of *la grippe* had fallen into a state of melancholia almost amounting to insanity. He suffered excessively from nervousness and from an intense pain the head, the latter being treated successively with morphine, cocaine, and bromide of potassium. He still complained of great pain in his head, until one night he pounded himself over the head with a poker until he had peeled off a large piece of scalp and produced enormous hæmorrhage. He then felt better. Some time after, the speaker found a sequestrum of bone (a portion of the external table) in the wound, which he removed, and the part began to heal beautifully. The man was very much depressed all along, and believed himself going crazy. He complained of hearing voices. The speaker reasoned him out of that state and pronounced him now upon the road to recovery.

The President thought the hearing of voices a pretty sure sign of insanity.

Book Notices.

Asthma, considered specially in Relation to Nasal Disease. By E. Schmiegelow, M. D., Consulting Physician in Laryngology to the Municipal Hospital, and Director of the Otolaryngological Department in the Polyclinic at Copenhagen. London: H. K. Lewis, 1890. Pp. 90.

This essay contains an historical review of theories relating to asthma; due justice to Hack for calling attention to conditions that had passed unnoticed, together with criticisms of his exaggerated views; and conclusions based on experience and investigation that are truly interesting. The author considers asthma a bulbar neurosis, consisting of an excessive reflex irritability of the respiratory center. He thinks that this neurosis may result from depressive factors, such as childbirth, bleeding, continued fever, etc.; that when this disorder appears in apparently healthy individuals, without trace of other nervous phenomena, it is presumably caused by frequent and strong irritations conducted to the respiratory centers from the nasal fibers of the trigeminus, and to this cause may be added irritation of other and more remote nerves, such as the laryngeal and pulmonary branches of the pneumogastric, or of any sensitive nerve whatever; that the suppression of peripheral irritation alone—as in the treatment of nasal disease—or combined with general nerve tonic treatment, may prevent asthmatic attacks; and that nasal disorders may exist accidentally in asthmatic persons without having the slightest ætiological relation to the attacks. An effort to find out what asthma really is, to place it where it really belongs, and to relegate it largely to the generous care of the neurologist, marks the trend of medical thought in reference to certain respiratory and cardiac affections. Dr. May's recent reports of cases cured by hypodermics of strychnine and atropine, and Dr. Schmiegelow's clinical observations, make the outlook of asthmatic sufferers more hopeful.

BOOKS AND PAMPHLETS RECEIVED.

Annual of the Universal Medical Sciences. A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by Charles E. Sajous, M. D., Lecturer on Laryngology and Rhinology in Jefferson Medical College, Philadelphia, etc., and Seventy Associate Editors, assisted by over Two Hundred Corresponding Editors, Collaborators, and Correspondents. Illustrated with Chromo-lithographs, Engravings, and Maps. Vols. I, II, III, IV, and V. Philadelphia and London: F. A. Davis, 1890.

Leçons cliniques sur les maladies de l'appareil locomoteur (os, articulations, muscles). Par le Dr. Kirmisson, Professeur agrégé de la Faculté de médecine; chirurgien de l'Hôpital des enfants assistés, etc. Avec 40 figures dans le texte. Paris: G. Masson, 1890. Pp. viii–350. [Prix, 10fr.]

Les anesthésiques: physiologie et applications chirurgicales. Par A. Dastre, Professeur de physiologie à la Sorbonne. Paris: G. Masson, 1890. Pp. xi–306. [Prix, 5fr.]

Practical Sanitary and Economic Cooking adapted to Persons of Moderate and Small Means. By Mrs. Mary Hinman Abel. The Lomb Prize Essay. Published by the American Public Health Association 1890. Pp. xi–190.

A Natural Method of Physical Training. Making Muscle and reducing Flesh without Dieting or Apparatus. By Edwin Checkley. Thir Edition. Fully illustrated from Photographs taken especially for thi Treatise. Brooklyn: William C. Bryant & Co., 1890. Pp. 4–7 to 152

Protoplasm and Life. Two Biological Essays. By Charles F. Cox M. A. New York: N. D. C. Hodges, 1890. Pp. 3 to 67.

Gunshot Wounds of the Abdomen. By Aug. Schachner, M. D., o Louisville. [Reprinted from the *Annals of Surgery.*]

The Creasote Treatment of Tuberculosis, with a Description of New Inhaler, and Impure Creasote the Cause of Failure in the Treatment of Pulmonary Tuberculosis. By G. W. Daywalt, M. D., Sa Francisco, Cal. [Reprinted from the *Occidental Medical Times.*]

On Conical Stump after Amputation in Children, with Especial Re erence to its Physiological Causes and Prognosis. By Charles A. Power M. D. [Reprinted from the *Medical Record.*]

Annual Report of the Board of Health of the Health Department the City of New York, for the Year ending December 31, 1889.

Second Annual Report of the Health Department of the City Mansfield, Ohio, for the Year commencing March 1, 1889, and endin February 28, 1890. By R. Harvey Reed, M. D., Health Officer.

State Board of Health. Report of Willis G. Tucker, M. D., Ph. D Analyst of Drugs.

Dei doveri del medico verso la società. Lezione di chiusura al cor di clinica propedeutica e patologia speciale medica, fatta all' universi di Perugia. Por Dott. Carlo Ruata. [Estratto dalla *Salute pubblica*

The Treatment of the Acutely Insane in General Hospitals. By P. Spatling, M. D. [Reprinted from the *Medical Record.*]

Reports on the Progress of Medicine.

PHYSIOLOGY.

By LOUISE G. RABINOVITCH, M. D.,

PHILADELPHIA.

On the Period of Muscular Contraction during which Heat beg to Discharge.—Of the known fact that voluntary or induced muscu contraction is accompanied by heat production, the period during contraction that corresponds to the production of heat is not kno

M. Maurice Mendelsohn (*Comptes rend. de la soc. de biol.*, No. 27, 1889) experimented for several years with the view of determining this period. He found most satisfactory the use of Bernshein's differential rheotome that communicates to the muscle momentary excitations at rapid intervals and of equal duration; it enables also, during the intervals, to shut off the muscular thermo-electric current for an extremely short time.

He was enabled to estimate the interval between the moment of muscular excitation and the discharge of heat; it is given in figures from 0·005 to 0·006 of a second. This interval constituting the latent period of muscular heat production appears to be inferior to the duration of the period of muscular contraction, that amounts, according to Helmholtz, to 0·01, and according to M. Mendelsohn himself to from 0·007 to 0·008 of a second.

He concludes from this that the beginning of the production of heat in the muscle is going on already during the latent period of muscular contraction.

The fact seems of importance to the author from several standpoints. It shows, in the first place, that the production of heat in the muscle precedes the mechanical effect of the excitation. It proves, further, that the latent period of the muscular contraction is not at all a period of muscular inactivity, but that during this short lapse of time there is already, subsequent to the excitation, discharge of certain vital forces. The muscular contraction is then only an ultimate and final effect of certain micro-chemical processes (or electrical, assuming that the electro-negative variation of the muscle current precedes the muscle contraction) which are going on during the persistence of the latent muscular period, and whose first effect is to produce heat. The heat is being produced during the period of muscular contraction, and to a very slight extent, or not at all, during the period of relaxation.

On Some of the Effects of Cold on the Human Body.—M. Féré (*ibid.*) has studied the subject and obtained the following results:

1. Simple exposure of the naked body to the air at a temperature of from 18° to 20° C. suffices to induce within several minutes an augmentation of pressure in the radial artery, which may amount to from 200 to 300 grammes at the end of ten minutes. The increase takes place even when the pressure is as high as 800 to 900 grammes. This fact explains why sudden exposure to a low temperature is apt to lead to rupture of the blood-vessels that have been previously altered. The augmented pressure thus determined explains also the occurrence of epilepsy subsequent to exposure to cold. Among the physiological phenomena caused by exposure to cold the author mentions the occurrence of considerable supersecretion from the axillary sudorific glands; this is so marked in some cases that an actual stream of sweat is set up. The fact is of importance with reference to the question of the sudorific axillary secretion that is considered to depend upon electrical excitation of the rhachidian and costal regions. The author has not succeeded in obtaining, by the same means, the secretion of sweat in the axilla, if care was taken to avoid exposure of a considerable area of the skin. This supersecretion, after the author, goes to show also that the reflex vaso-constricting influence of cold is not so general as is supposed.

2. Epileptic patients have been observed to be enabled to avert an epileptic fit by swallowing quickly a glass of cold water just at the beginning of this premonitory obnubilation; this means proved to be fruitless when it was too near the period of loss of consciousness. The following observed phenomena are given as an explanation to account for the above effect: By means of Bloch's sphygmometer the patient's arterial pressure during the normal state has been ascertained to be from 800 to 850 grammes; after the sudden ingestion of twenty-four centilitres of ice-water, the arterial pressure amounted to from 1,050 to 1,200 grammes. Within a period of from five to six minutes after the ingestion of the liquid the pressure returned to the normal standard. The augmented arterial pressure has been observed to be less in case the same quantity of cold water is ingested in divided doses.

The augmentation of the surface blood-pressure is explained by the constricting action of the cold on the abdominal vessels. The occurrence of syncope and other accidents under the influence of ingested cold is presumed to depend upon a possible reflex constriction of the encephalic vessels.

Assuming that the increased blood-pressure constitutes one of the physiological conditions of an epileptic discharge, it is questioned if the artificial induction of high blood-pressure, as is the case in ingesting cold, does not act by substitution, causing at the same time a partial spasm capable of interfering in due time with the epileptic discharge.

By subjecting one hand to a temperature higher than the surrounding, and so determining in that hand a greater amount of blood, M. Féré has been successful in realizing the counter-proof of the fact that, in general, psychomotor excitations, or depressions, are characterized respectively by an augmentation or diminution of the energy of voluntary movements, and shortening or lengthening of the period of reaction.

On the Retrograde Circulation in the Venous Blood-Current.—M. J. Thomayer (*ibid.*) alludes to the fact that auscultation over markedly dilated varicose veins of the lower limbs at the time when the patient is straining, as during cough or other exertion leading to contraction of the abdominal wall, gives frequently a murmur identical to the *bruit de diable* of anæmic patients. Touching the dilated vessel gently with the finger, the *bruit de diable* is felt to be induced by a jerk of blood propagating in the vein from the center to the periphery, at the moment that the patient coughs or exerts contraction of the abdominal muscle. In cases of general dilatation of the saphenous vein, narrowing of the same by gently compressing it gives the same murmur below the point of compression.

M. Thomayer sees as cause for the murmur the retrograde blood-current occasioned by the intrathoracic or intra-abdominal pressure. He thinks that in the normal blood-vessels the same phenomenon takes place under the influence of the same agents; this retrograde circulation must take place, it is supposed, if not in general, at least in the veins of the lower limbs at the level of the first venous valves. Basing his idea on the existence of the current under pathological conditions, in varicose veins, the author is inclined to accept it as a possible normal physiological phenomenon, though it can not be obtained as such, for the reason of its propagation being interfered with by the venous valves; he supposes that physiologically it exists at least in the vena cava inferior, and in other veins deprived of valves. He points out that the interest that this fact offers is that it explains the origin of the retrograde metastasis described by von Recklinghausen, and also disturbances of circulation occurring in diseases accompanied by cough and tenesmus; it finally shows that the *bruit de diable* in anæmia depends upon the venous walls (dilatation?) rather than upon the pathological condition of the blood.

On Exploration of the Movements of the Tongue.—By modifying M. Bloch's apparatus, M. Ch. Féré (*id.*, No. 15, 1889) has constructed a glosso-dynamometer that enables him to study the resistance to pressure of the tongue in its five principal directions. He thinks this contrivance will prove of good service in the study of neuropathic disturbances of the tongue.

The description of the mode of application of the instrument is given, and it is stated that under normal conditions the resistance to pressure from above downward, or the energy of the movement of elevation of the tip of the tongue, varies from 700 to 850 grammes; that of lowering, from 600 to 800 grammes; the resistance to lateral pressure is from 600 to 850 grammes; and, finally, protruding the tongue resists a pressure of from 700 to 900 grammes.

These measurements are well utilized in unilateral disturbances of the tongue. The author opposes the generally admitted belief that disturbances of articulated speech can exist without at the same time alteration of the movements of the tongue; for, he states, the cerebral organs of sensibility or movements are the seat of reflex phenomena, and descending degeneration is possible in cases of lesions in Broca's region, as well as in cases of lesions of the motor regions. Direct explorations show the coincidence of disturbance of lingual movements with that of articulated speech. The statement is confirmed by the following facts:

1. In two aphasic patients with slight hemiplegia there was no apparent alteration of mobility of the tongue, and examination revealed decreased resistance to pressure that amounted to from 250 to 300 grammes on the right side; the movements of elevation, depression, and protrusion were from 100 to 200 grammes less than the normal.

2. In three hysterical patients that had been aphasic by suggestion

the diminution of resistance to pressure from right to left amounted to from 200 to 300 grammes.

3. In several epileptic patients with speech disturbances subsequent to an attack, the resistance to pressure was diminished to various degrees in all directions. On an average it is 200 grammes below that obtained in the same individual about two or three hours after the attack.

4. A general paralytic patient with marked disturbance of speech gives almost negative resistance in all directions, though he performs conscious efforts and makes free movements of the tongue in every direction.

5. A congenital deaf and dumb subject presented diminution of resistance in all directions amounting to from 280 to 300 grammes.

The author further says that M. Charcot's statement of the existence of unilateral glosso-labial spasm on the side opposite to the paralyzed half of the body in hysterical patients, and M. Bressaud, M. Marie, and M. Bélin's confirmation of the frequency of the occurrence of this symptom, must be accepted with reserve, for, in eight hysterical patients affected to some extent with hemimyasthenia of the limbs, he found decreased resistance of the tongue to pressure on the side corresponding to the paralyzed half of the body. In three cases with marked myasthenia the lingual resistance on the side corresponding to the affected side of the body was almost absent, whereas on the opposite side it amounted to from 650 to 700 grammes.

On two of those patients that presented right anæsthesia and amyasthenia the author observed that, under the influence of suggested aphasia, the lingual resistance on the same side was still further reduced, while the increase on the left side was 50 in one and 100 grammes in the other patient.

Similar facts are stated to be of frequent occurrence in hysterical patients and in those subject to suggested paralysis.

On Lavation of the Blood in Infectious Diseases.—MM. A. Dastre and P. Loye (*id.*, No. 14, 1889) related in the *Arch. de phys.*, 1888, their studies on intravenous injections of water, in which it was demonstrated that, by observing certain precautions, a considerable quantity of water can be introduced into the circulatory apparatus without causing any accidents to the animal. The injected liquid passes from the blood into the tissues, returns back into the blood, and the excess of water is finally rejected by the kidneys.

It was shown also that the rejected excess of water did not contain any essential elements to nutrition, but indifferent ingredients and urea particularly was swept away by the process of lavation.

On the strength of this, the authors expected that, in case of blood infection, lavation of the blood would lead to artificially increased elimination of harmful substances introduced into the system either directly or by intoxication. In all cases of experimental intoxication where the method of lavation was used, though the quantity of secreted urine was increased, the animals succumbed always an hour before those in which the disease was left to its natural course.

The authors suggest two points in explanation of the acceleration of the course of infection: First, under the influence of the operation of lavation the vital resistance is considerably diminished; this diminution is of little consequence in the normal organism, but under pathological conditions serves to aggravate symptoms. Secondly, by lavation infectious matter is diffused and distributed in all parts of the body, and this hastens to lessen the vital resistance of the tissues.

The presumption that the increased elimination of urine would interfere with or compensate for the artificial supply of poison in the experiments not having been realized, the authors suppose that either the toxic matter generated by the microbes is not at all filtered by the kidneys, or else this is done in a deficient measure. Upon this subject they expect to dwell in future.

The Passage of Oxyhæmoglobin into the Gall-bladder after Death.—MM. E. Wertheimer and E. Meyer (*id.*, No. 26, 1889) relate that the gall-bladder taken from an animal that was killed two or three hours previously contains almost always oxyhæmoglobin. Experiments contradict the hypothesis that this is due to post-mortem secretion that is furnished by the dead hepatic cells, whose diminished activity leads to incomplete elaboration of the coloring matter of the blood.

The experiments consist in ligating the cystic duct immediately after the death of the animal; the oxyhæmoglobin occurs as before; the same takes place on extirpating the gall-bladder and exposing it to the air for several hours.

The explanation given is that it depends upon a cadaveric phenomenon the mechanism of which is probably the following: The vesicular epithelial lining losing its vitality, allows transudation of the bile through it and its blood-vessels; the red blood cells are dissolved by the action of the bile, the oxyhæmoglobin is discharged, and then diffuses toward the cavity of the gall-bladder, mixing at the same time with the bile contained therein.

The same observations have been made on different animals, dogs, rabbits, guinea-pigs, and on some specimens of bile taken from cadavers.

The authors had announced as a peculiarity the fact of the almost constant presence of oxyhæmoglobin in the bile of animals with an artificially reduced temperature. At present they are enabled to interpret the fact, and do not admit now the peculiarity to depend upon the artificially reduced temperature. The more constant presence of oxyhæmoglobin in the bile of animals that died a normal death than in that of animals killed by means of freezing is ascribed to the reduced vitality of the hepatic cells in the latter.

It is suggested that it might prove of service in legal medicine to determine the exact moment of the occurrence of the cadaveric alteration, having as a guide the occurrence of oxyhæmoglobin in the bile.

On Nutrition in Hysteria.—The literature on the subject shows that all authors agree with M. Empereur, who, in his essay on the nutrition in hysteria (1876), concluded that the assimilation in hysterical subjects was absent, because disassimilation did not take place. He formulated the same by saying: "Elles ne maigrissent pas parce qu'elles ne dépcrdent rien, et, ne dépcrdant rien, il leur est inutile, sinon nuisible, de manger." M. Gilles de la Tourette (*id.*, No. 30, 1889), with his interne in pharmacy, M. H. Cathelineau, undertook to contribute to the same question on the ground of the urinary excreta in hysterical patients of both sexes. They divide the patients into two groups: 1, normal, and 2, pathological hysterical patients, the first being those that possess permanent physical stigmata establishing the diagnosis of the neurosis, and the second those presenting, in addition, the series of the various accidents characterizing a full hysterical fit.

I. Ten hysterical persons of the first group, including seven women and three men, were examined, and it was found that, though it was true that they did not accept, as a rule, the ordinary food, yet in the particular food that they often had a desire for exclusively they found enough of nourishing material sufficient to keep even a normal person in a good condition of health. From seventy-nine analyses of specimens of urine voided in the twenty-four hours, the examination having reference to the volume, solids, urea, and phosphoric acid, the authors conclude that in what they called normal hysterical patients the nutrition differs in no respect from that in normal persons.

II. In the patients of the second group the pathological phenomena regarding the attack were studied specially with regard to: 1, the convulsive attack in four periods; 2, the attack limited to one of these periods, or having in this period a predominating epileptoid, lethargic form, etc.; 3, the attack of the type of partial epilepsy; 4, the attack of rhythmic chorea, cough, yawning, etc.

The urinary analyses for the twenty-four hours, comprising the time from the beginning to the end of the attack, enable the authors to state that in a convulsive and the various other hysterical attacks there is—1, decrease of the urinary solids, of the urea and phosphates; 2, the ratio of the earthy to the alkaline phosphates being normally as 1 to 3, becomes during an attack as 1 to 2, and often as 1 to 1. This the authors called inversion of the formula of phosphates.

The volume of the urine for the twenty-four hours is more frequently diminished, though the first micturition following the attack is generally greater than an ordinary one, and this leads to the polyuria, when the latter exists.

The authors think that chemically the various grave forms of hysteria—epileptoid, cataleptic, delirious, lethargic, etc.—are to be considered simply as prolonged hysterical attacks with accentuation of all phenomena that are observed in a simple attack.

From the study of the curve of urinary excreta during the period of an attack it is concluded that there is a decrease in the urinary elements in the beginning of the attack, then a return to the normal, and finally an increase before the discharge of the attack. This increase, it is said, before and during the day of the attack does not depend upon the alimentation; the latter has been negative in most of the patients that were under observation during the attacks. It is inferred from the fact that the phenomena are dependent upon the hysterical attack itself, and not upon inanition.

Clinically the importance attached to the fluctuation of the curve of the urinary excretions is that it enables to foresee the extent of the duration of the coming attack, and to predict the return to the normal condition.

Regardless of the variety of the attack, the body is said to lose in weight during this period, and, according to its duration, from 200 to 300 grammes per day, and to return rapidly to the normal after the attack.

The statements are illustrated by the following tables of urinary analyses:

Comparison between Partial Symptomatic and Partial Hysterical Epilepsy.

NAME.		Volume of urine.	Solids.	Urea.	PHOSPHORIC ACID.			Relation between the phosphoric acids.	Observations.
					Earthy.	Alkaline.	Total.		
		C.C.	Grm.	Grm.	Grm.	Grm.	Grm.		
Patient, age 34; weight, 72 kilos.	Normal state.	1,450	45·00	23·15	0·66	1·87	2·53	37 to 100	Partial symptomatic epilepsy.
	Access.	1,700	49·20	61·20	1·07	2·48	3·55	43 to 100	
Patient, age 48; weight, 58 kilos.	Normal state.	1,200	43·60	19·00	0·49	1·46	1·95	35 to 100	
	Access.	1,260	53·00	22·00	0·65	1·75	2·40	37 to 100	
Patient, age 29; weight, 49 kilos.	Normal state.	1,080	45·20	19·50	......	......	2·17	....	Partial hysterical epilepsy.
	Access.	910	30·80	8·55	......	......	1·70	....	

Coexistence and Differentiation of an Hysterical Attack and an Epileptic Access in the same Person.

Patient, age 21; weight, 72 kilos.	Normal state.	1,150	44·40	22·00	0·70	1·72	2·42	40 to 100	Normal state.
	Attack.	1,350	33·00	14·00	0·56	0·92	1·48	63 to 100	Hysteria.
	Access.	1,320	48·00	27·00	0·87	2·05	2·92	42 to 100	Epilepsy.
Patient, age 28; weight, 31 kilos.	Normal state.	1,200	52·15	24·00	0·57	1·73	2·30	32 to 100	Normal state.
	Attack.	1,190	41·00	18·00	0·76	1·20	1·96	63 to 100	Hysteria.
	Access.	1,150	56·20	31·05	0·69	1·88	2·57	36 to 100	Epilepsy.

On the strength of the urinary analysis, M. Empereur's conclusions are pronounced erroneous.

It is shown in the table that chemically a hysterical constitutes the reverse of an epileptic attack. An attack of true or partial symptomatic epilepsy is to be recognized by the considerable elevation of the urinary constituents, whereas a hysterical attack in shape of any of its various forms is to be recognized by a considerable diminution of the same. In two cases of hysteria with stigmata without attacks the authors recognized the coexistence of true epileptic accesses. In conclusion, t is said that this work is the first that positively establishes the diagnosis in doubtful cases.

Anæsthesia in Frogs by Deficiency of Oxygen (Presented by M. Morat).—M. Reboul (*id.*, No. 22, 1889) produces asphyxia in the frog either by exclusion of air or keeping it in a vessel with inert gas; after a certain time the frog becomes immobilized and insensible. With preservation of the circulatory movements the frog gives all symptoms observed in ordinary anæsthesia. Exposing it to the air, it gradually eturns to the normal.

The author suggests the use of this method of anæsthetization for delicate experimental work on cold-blooded animals. Physiologically, the act is mentioned to be of interest from the view that, under the influnce of asphyxia by privation of oxygen, the properties of the nervous system disappear gradually in the order observed under the action of the ordinary anæsthetics.

On the Lowering of the Body Temperature in Men after suggested Loss of Sensibility to Heat and Cold.—M. M.-J. Marés (*id.*, No. 24, 1889) had stated that in mammalia the hibernal sleep was a hypnotic phenomenon in which the animal lost the sensibility of cold, which is the principal regulator of temperature in hæmothermic animals; that by artificially reducing the body temperature a warm-blooded animal was converted into a cold-blooded one, and fell into hibernal sleep. With the return of the sensibility to cold there is an increase in the production of heat by reflex way; the animal resumes the physiological temperature and is free from hibernal sleep. On the strength of this theoretical consideration, M. J. Marés undertook a series of hypnotic experiments which proved fruitless on animals but successful on men. The results are elaborately represented in figures that show the decided influence of suggested loss of sensibility to cold and heat on the physiological temperature.

In one case the sublingual temperature is recorded to have been 37·1° C. at 8.30 A. M., and 34·5° C., after the suggestion, at 8.30 P. M. In another the figures were, respectively, 37° C. at 8.30 A. M., and 35·5° C. at 8.30 P. M., after suggestion.

In both cases, after restitution of the sensibility to cold, all unpleasant symptoms subsided, and the temperature returned to the normal.

The phenomenon is supposed to be due to disturbance in the regulation of the temperature caused by the hypnotic suggestion of loss of sensibility to cold, by virtue of which the external loss of body heat surpasses the proportionate internal supply, until finally the thermic source is exhausted and there is actual interference with the normal equilibrium between the loss and repair of heat production.

MM. Marés and Hellich think for this reason that the influence of suggestion is not limited to the functions of volition and consciousness; they do not accept Bernheim's statement of the suggestive influence being purely psychical.

It is further said that the lowering of the body temperature subsequent to suggested loss of sensibility to cold and heat is a physiological experiment indicating the causal connection between the sensibility to cold and the production of heat, and that this sustains the doctrine deduced from experiments by physico-chemical methods that the sensibility of the nervous system to heat and cold is the main regulator of the constancy of temperatue in warm-blooded animals.

It is put forward as a proved fact that hibernal sleep is a hypnotic phenomenon in which the animal loses sensibility of cold, and that men too, by losing sensibility to temperature, fall into hibernal sleep or apparent death. The surprising tales about the Indian fakirs seem to the authors to depend upon auto-hypnosis leading to loss of sensibility, which is followed by complete inertia of the nervous system suspending all vital functions.

On the Influence of Oxygen Inhalations on the Variation of the Respiratory Rhythm in Diphtheritic Patients.—In the Children's Hospital M. P. Langlois (*id.*, No. 13, 1889) has experimented on children with infectious diphtheritic angina without the existence of a false membrane in either the larynx or the trachea, and on those that presented all the symptoms of croup before and after tracheotomy. About thirty litres of oxygen were used for each case within from twenty to twenty-five minutes. The respiratory tracings were taken by means of Marey's double cardiograph.

The modifications of the form of the respiratory movements under similar circumstances had been studied already by Ledoux-Levard (*Recherches sur la respiration dans le croup*, Thèse, 1881), and the author paid special attention to the variation in the frequency of the same movements.

Acceleration of the respiratory rhythm during the oxygen inhalations was observed as a constant result. It begins with the inhalation and lasts as long as this is maintained.

Though the frequency of the respiration is increased, it is of a less dyspnœic character. Both inspiration and expiration are more brisk and energetic, and performed with less difficulty. The child is more in a condition of polypnœa than of dyspnœa.

The acceleration of the respiratory rhythm caused by oxygen inhalations seeming to be in contradiction with Rosenthal's statement of the rôle of anoxæmia as an exciting agent of the respiratory center, M. Langlois explains as follows: Under the influence of prolonged subasphyxia depending upon laryngeal stenosis, and perhaps upon the specific action of the secreted septic product of the diphtheritic micro-organisms, the entire organism, and the bulbar centers particularly, are oppressed, which causes diminution in the respiratory incitations. But under the influence of the inhaled oxygen the superoxidation of the blood diminishes the vital depression, and the child reacts quickly in resuming sufficient pulmonary ventilation.

Hæmatospectroscopic Notes on Hysterical and Epileptic Subjects.—M. Ch. Féré (*id.*, No. 7, 1889) has reported the comparative examinations of hysterical and epileptic subjects, and has found the duration of reduction to be longer on the anæsthetic side in hysterical persons. The duration of the disappearance of the principal hæmoglobin band in the same varies greatly, and the conditions of such variations can often be determined. Thus, in induced sleep it is augmented; there is decided augmentation especially in lethargia; in one such case the duration amounted to 88″, instead of 72″, and in another to 82″, instead of 63″. In somnambulistic subjects the duration of reduction can be varied either by inducing different emotional conditions or simply by exciting the organs of special senses. M. Hénocque had already mentioned that in normal subjects muscular exercise and massage lead to augmentation of the activity of reduction; the momentary effect of muscular exercise, massage, hydrotherapy, and static electricity is to increase decidedly the activity of reduction in hysterical persons. The influence of cutaneous excitations, or of excitations of the special senses, is manifested with the same intensity. Suggested emotions in somnambulism, persisting during the period of consciousness, give analogous variations; sthenic emotions are accompanied by a diminution, and asthenic by an augmentation of the duration of reduction.

With reference to the phenomena of nutrition in relation to the normal psychical conditions, Apjohn (*Dublin Hosp. Rep.*, 1830, v, p. 532) had contributed an observation on his own person, stating that there was considerable diminution of the exposed carbon dioxide under the influence of temporary mental depression.

M. Féré has been enabled to observe in hysterical persons, in whom the activity of reduction is already decreased, a still further augmentation of the duration of reduction under the influence of suggested depressive emotions.

The lowering of the nutritive process is in relation not only with depressive emotions, but, too, according to M. Hénocque, with the mental or physical fatigue, and subsequently with exaggerated activity following marked peripheral or mental excitations. In case the duration of reduction, under these conditions, is not increased, it is to be ascribed to the fact that excessive nervous discharges are apt to be followed by a diminution of the quantity of oxyhæmoglobin.

Accidental lowering of nutrition, occurring in the course of mental depression and subsequent to marked excitations, can serve as a basis of explanation of the fact that any nervous discharges—such as psychical or mental fatigue, traumatic or moral shock—are apt to contribute to the diminution of the feeble nutritive activity of certain subjects, and induce what M. Bouchard called "maladies par ralentissement de la nutrition," this affection being more apt to manifest itself on the side of the body previously predisposed by other disturbances. The diminished resistance to intoxication and infectious diseases under the influence of depressing conditions is to be explained by the existing diminished nutritive processes. The knowledge of the modifications of the activity of exchanges, under the influence of peripheric excitations, that might be manifested as either mental or moral emotions, contributes to the admission of the intimate correlation between the psychical and moral conditions. Comparing the variation of the duration of the oxyhæmoglobin reduction with that of the time of reaction in hysterical persons, M. Féré says (*id.*, 1889, p. 671, Note sur le temps de réaction chez les hystériques et les épileptiques) it is evident that both phenomena undergo parallel variations under the same influences. Though it is impossible to establish definite proportions, it is permissible to state that the duration of the time of reaction varies as the duration of the oxyhæmaglobin reduction, or, as the author states, in other words, the time of intellectual activity is in relation with the activity of nutrition. Mental pathology can furnish, it is said, other illustrations demonstrating that intelligence is a function of the nutrition. With M. Hénocque, the author refers to the diminution of the activity of the oxyhæmoglobin reduction in epileptics, adding that this accident coincides with the existence of a reduced quantity of oxyhæmoglobin in the blood, as he found it in his observations on epileptic patients to be nine per cent., whereas, according to M. Hénocque, general patients of the hospital present thirteen per cent. of oxyhæmoglobin. Among the different causes that could account for the decidedly reduced percentage of oxyhæmoglobin in epileptics the author is convinced that an attack is the main factor, for always after the attack he found the relative reduction to amount to from one to two per cent., this disappearing within the few days following the attack.

The reduction manifests itself not immediately following the attack, but some time after, which has not been determined as yet; it amounts to over three per cent., regardless even of the forced alimentation that may be administered to the patient. This fact, it is said, corresponds with the statement of the decreased quantity of oxyhæmoglobin subsequent to intense nervous discharges; it serves also to explain the occurrence of acute anæmia consequent on violent emotions (D. Duckworth, On Acute Anæmia due to Fright, *Brit. Med. Jour.*, 1873, ii, p. 226).

The author thinks it possible that the blood alteration is an important factor in the cause of death during the stage of an epileptic attack.

All this goes to show the relation and coincidence of mental troubles with defective nutrition. The deductions from that knowledge and the practical indication based on the same, M. Féré states, have already been dwelt upon by Weir Mitchell.

On Auto-intoxication of Renal Origin, with Elevation of Temperature and Dyspnœa.—M. R. Lépine (*Abeille méd.*, No. 27, 1889). The contrast is drawn between the effect of ligating the ureters and the introduction of a cannula into the same, the cannula communicating with a reservoir that contains water, to which some sodium chloride is added in the proportion of 0·7 per cent.; the pressure of the water is made sufficient to interfere with the outflow of urine, and to somewhat fill the kidney with this solution. In case the ureters are ligated the animal succumbs within about three days; with the gastro-intestinal irritation there is lowering of the central temperature. In the second case the symptoms of vomiting and diarrhœa are absent, but foaming at the mouth is present; both the central and peripheral temperature rise progressively, and almost at the same time the respiration assumes a special expiratory type—is lowered at first, then much accelerated and becomes noisy; sometimes there is some subsultus of the limbs; the central temperature continues to rise, and within a few hours the animal succumbs with a temperature varying from 40° to 42° C. As soon as this temperature is reached nothing can prevent the fatal issue, even if the urine is allowed hastily to flow as usual. It is not admitted that the accident is due to the entrance of water into the renal system, since intravenously a considerably larger quantity of saline water can be infused without provoking any fever or other disturbances; but the water passing through the renal system is charged with renal interstitial juice, acquires a thermogenic and dyspnœic action. The noxious effect of this interstitial juice of the kidneys is confirmed by the following experiment: The kidneys of a dog killed by acute hæmorrhage are crushed in sterilized water, and after filtration an intravenous injection of the liquid is made in a smaller dog. At the lapse of four hours the central temperature rises to 40·1 C., the animal is oppressed, there are agitation and foaming from the mouth, the symptoms being the same as those obtained from an animal subject to urinary counter-pressure.

The conclusion is that the healthy kidney contains thermogenic, dyspnœic, and other principles. This the author admits optionally, for in his experiments either one or the other poison predominated, as could be judged from the symptoms.

A Case of Association of Cardiac Inhibition with each Inspiratory Effort.—M. L. Capitan (*Arch. de phys. norm. et pathol.*, No. 3, 1889) quotes Brown-Séquard's recent experiments, demonstrating that pronounced respiratory movements—such as are observed in dogs that are made to breathe in an atmosphere mixed with carbon dioxide—are apt to completely inhibit the heart during either the inspiratory or expiratory act.

The author had an opportunity of observing carefully the occurrence of similar phenomena in a human subject.

The patient poisoned with morphine remained in complete coma during twenty-four hours; no therapeutic agent could arouse him. The respiration was exceedingly rapid, deep, regular—from 32 to 36 per minute. The pulse was very rapid, quick, tolerably strong and regular—from 160 to 180 per minute. Toward the twenty-sixth hour, the respiration maintaining its previous type, the pulse presented a rhythmical irregularity with distinct periods of suspension, and within the four succeeding hours was characterized by the following peculiarities: The expiration lasted from one to one second and a fraction; during this period five pulsations could clearly be counted. At the moment of the beginning of inspiration the pulse was suspended, and no pulsation could be felt during the entire period of inspiration, which lasted for about half a minute. With the commencement of expiration the pulse reappeared, beating again five times during this period. The cardiac beats could not be obtained distinctly for the reason of the presence of numerous râles in the chest. This cardiac inhibition during inspiration lasted in a very regular manner until the thirty-sixth hour. Both respiration and pulse diminished in amplitude and intensity respectively, the former having ceased progressively, then the pulse, which presented the same peculiarity to the last during one of the acts of respiration.

The author thinks that the fact confirms distinctly Brown-Séquard's statement.

Appearance of Red Marrow in a Case of Acute Anæmia.—M. Lépine (*Lyon médical*, No. 22, 1889) presented to the Société des sciences médicales a transverse section of the superior portion of the femur, taken from a woman seventy years of age, who had died of acute hæmorrhage. The bone marrow was colored red, as in infants, instead of being adipose.

M. Augagneur questions whether the profound anæmia in tertiary syphilis has not its origin in the bone lesions, taking into consideration the persistence of interference with hæmatosis and its being accompanied with the train of symptoms of osteocopic pains and gummatous infiltration of the bones.

M. Lépine states that in similar syphilitic cases he has found in the red marrow large cells holding in their interior blood cells. The former are supposed to absorb the latter, and then destroy them.

In this connection Cohnheim is quoted, in his description of red marrow containing cells of a transitory type between marrow and blood cells.

M. Lépine thinks, without giving actual demonstration, that this special coloration of the marrow is met with in the bones of the entire skeleton; he has found this in the sternum, humerus, and femur. M. Augagneur thinks the characteristic of the marrow is the presence of what are called myeloplaxes containing red cells, which are considered by some authors as the result of inflammation.

New Inventions, etc.

A NEW OPHTHALMOSCOPE.

By S. M. Payne, M. D.,

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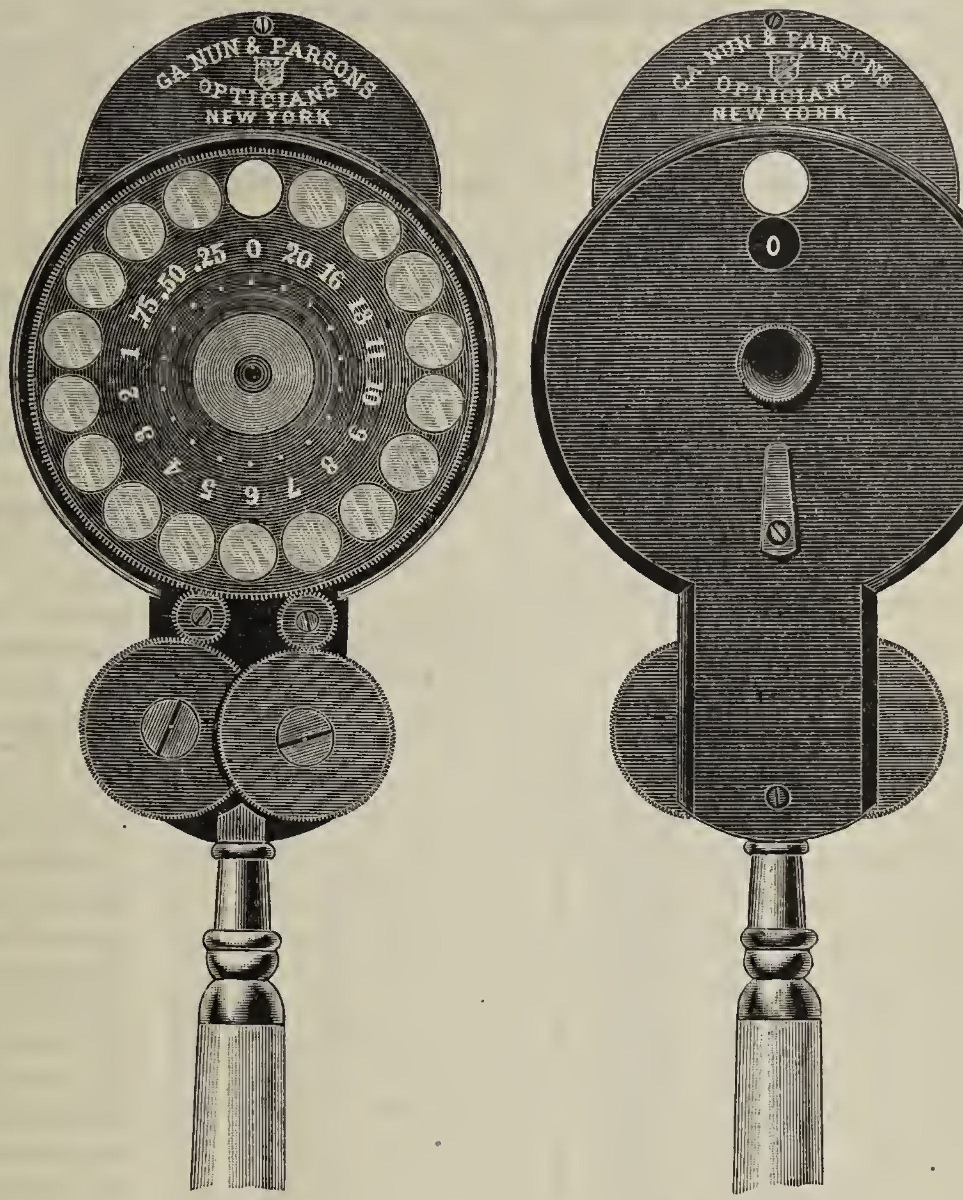
Having had considerable experience with various ophthalmoscopes handed to me by beginners in ophthalmoscopy, to explain their manner of working, and also the experience of making examination of eyes with them, I found none of them that exactly filled the requirements in all cases. In some of the single disc ophthalmoscopes there is too great a difference in the strength of the lenses to make a minute examination of the fundus, corresponding to the examination made with the test lenses. In other single disc ophthalmoscopes the strongest lens is not sufficiently strong to make a minute examination of the cornea and lens.

The improved Loring, which is now more in use than any other, has some objections. Experience has proved to me and others that one can not see as distinctly through two strong lenses as through a single lens of the same strength as the two combined. Another objection is that it has to be removed from the eye every time a change is required, which is not a very small matter if one is pressed for time. Some other ophthalmoscopes are too mechanical, without sufficient combinations of the weaker lenses, and sufficient in the stronger lenses only by a combination of two.



The ophthalmoscope I have devised has two discs—one with convex and the other with concave lenses of seventeen each, the numbers of which are the same in both discs, running, as you will see in the cut, as follows: 0·25 D., 0·50 D., 0·75 D., 1 D., 2 D., 3 D., 4 D., 5 D., 6 D., 7 D., 8 D., 9 D., 10 D., 11 D., 13 D., 16 D., and 20 D. The last eight have focal distances in inches—5½″, 5″, 4½″, 4″, 3½″, 3″, 2½″, and 2″—which are sufficient without interposing another lens. Each disc is supplied with a revolving wheel immediately below and just above the handle. Moving down the wheel on the right side increases the strength of the convex lenses to the right, and moving down the wheel on the left side increases the strength of the concave lenses to the left. The wheels are very easily manipulated with the thumb for one and the index finger for the other. In measuring an eye to correspond with the result obtained by the test lenses, every 0·25 D. can be obtained, on either disc, up to 11 D., by placing 0·75 D., 0·50 D., 0·25 D. of the opposing disc over each successive lens, after the first four lenses, which differ by 0·25 D., without combination; and every 1 D. from 11 D. to 20 D. can be obtained by placing of the opposing disc 1 D. over 13 D., 2 D. and 1 D. over 16 D., and 3 D., 2 D., and 1 D. over 20 D. You will notice that the strongest lens used in combination with a strong lens is 3 D., which is used only to make one combination, 2 D. only two, and 1 D. only three combinations. The combinations of the opposing 1 D., 2 D., and 3 D. are only necessary in the refraction of a high degree of myopia, as the refraction of hypermetropic eyes does not run higher than 11 D., including aphakia. Another good feature of its working is that, while looking at the front of an eye with the + 20 D., one downward move of the right wheel brings the fundus into view; by looking only through the aperture, if very indistinct, one upward move of the left wheel will bring − 20 D. over the aperture, two moves − 16 D., and so on, quickly finding if myopia exist, and the amount. Every turn of one or both discs will give any combination found in the most complete test case without taking the ophthalmoscope from the eye. The mechanical construction of the instrument has been very perfectly carried out by Messrs. GaNun & Parsons, opticians, of 5 West Forty-second Street.

266 Madison Avenue.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for July 25th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	July 19.	1,633,748	941	..	..	..	..	..	..	5	7	13	11	15
Philadelphia, Pa	July 12.	1,064,277	553	..	..	..	..	..	..	13	2	10	1	9
Brooklyn, N. Y	July 19.	871,852	523	..	..	..	..	..	..	1	2	17	2	11
Baltimore, Md	July 19.	500,343	248	..	..	..	..	..	..	9	1	4	1	3
St Louis, Mo	July 12.	450,000	198	..	..	..	..	..	..	2	3	3	..	2
Boston, Mass	July 19.	420,000	219	..	..	..	..	..	..	1	..	7	..	1
Cincinnati, Ohio	July 18.	325,000	123	..	..	..	..	..	..	6	..	7	..	..
Cleveland, Ohio	June 28.	260,000	77	..	..	..	..	..	..	6	..	2	1	3
Cleveland, Ohio	July 5.	260,000	93	..	..	..	..	..	..	4	1	5	..	...
Washington, D. C	July 19.	250,000	122	..	..	..	..	..	..	10	..	..	1	1
Pittsburgh, Pa	July 19.	240,000	125	..	..	..	..	..	..	6	..	5	5	....
Louisville, Ky	July 19.	227,000	73	..	..	..	..	..	..	4	1	..	..	....
Minneapolis, Minn	July 12.	200,000	51	..	..	..	..		..	1	..	2	..	....
Minneapolis, Minn	July 19.	200,000	60	..	..	..	..	..	..	1	..	2	..	....
Kansas City, Mo	July 12.	150,000	70	..	..	..	..	..	..	3	..	..	..	....
Rochester, N. Y	July 5.	130,000	23	..	..	..	..	..	..	..	..	..	..	....
Rochester, N. Y	July 12.	130,000	45	..	..	..	..	..	..	..	1	1	..	....
Providence, R. I	July 19.	130,000	62	..	..	..	..	..	..	..	..	..	..	....
Richmond, Va	July 12.	100,000	37	..	..	..	..	..	..	..	..	..	1	....
Nashville, Tenn	July 19.	72,256	38	..	..	..	..	..	..	1	..	..	..	1
Fall River, Mass	July 19.	69,000	48	..	..	..	..	..	..	..	..	..	.	..
Charleston, S. C	July 19.	60,145	34	..	..	..	..	.	..	2	..	..	..	1
Toledo, Ohio	July 19.	50,000	26	..	..	..	..	..	..	..	1	1	..	....
Manchester, N. H	July 19.	43,700	.. ..	..	..	..	.	..	..	..	..	..	..	....
Portland, Me	July 19.	42,000	12	..	..	..	..	..	..	1	..	..	..	....
Galveston, Texas	July 4.	40,000	18	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	July 11.	40,000	12	..	..	..	..	..	..	..	..	..	1	....
Binghamton, N. Y	July 19.	35,000	13	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y	July 19.	31,949	22	..	..	..	..	..	..	..	..	1	..	....
Newport, R. I	July 17.	19, 66	2	..	..	..	..	..	..	..	..	..	..	1
Rock Island, Ill	July 13.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla	July 12.	15,000	11	..	..	..	..	..	..	2	..	..	..	...

Poisoning by Antifebrine.—"Dr. J. Vierhuff, of Subbath, in Courland, communicates to the *St. Petersburger medicinische Wochenschrift* the notes of a case of antifebrine poisoning, which show what dangers people run who dose themselves with drugs of this class. A healthy young married woman, who had been in the habit of taking antifebrine for headache, feeling the pain come on early one morning last summer, took, fasting, about a teaspoonful of the drug in some water. In about ten minutes, the headache not being relieved, she repeated the dose, which her husband remarked might prove dangerous. She consequently took a glass of milk and some alum water in order to produce vomiting, which she succeeded in doing, but immediately afterward giddiness, singing in the ears, throbbing in the temples, and a dull pain in the head, together with a feeling of weakness, came on, and the face assumed a livid hue. When seen four hours after the drug had been taken the face was a livid color, the lips blue, the pupils contracted, but the heart, temperature, and mental condition were normal. An aperient and a stimulant were ordered. Shortly afterward the patient became suddenly collapsed, the pulse could not be counted, and the breathing was very shallow; in fact, the woman appeared to be dying. The soles of the feet were brushed, vinegar was rubbed on the face, and cold water sprinkled over the face and chest; also a mixture of camphorated oil and ether was ordered for injecting subcutaneously. While this was being procured several syringefuls of dilute spirit, which was all that could be obtained, were injected and the patient was brought round, though for three hours and a half her condition appeared hopeless. Then, after recovering somewhat, collapse again came on, and recourse was had to an intravenous injection of a solution of common salt, which appeared to act most beneficially. In about fourteen hours after the drug had been taken the patient was out of danger. After that she continued to improve, though she complained of debility and pain in the limbs for a week. Dr. Vierhuff remarks that the serious symptoms were probably due largely to the patient's taking the antifebrine on an empty stomach."—*Lancet.*

ANSWERS TO CORRESPONDENTS.

No. 327.—The new law has not gone into effect. If you have a New York State diploma, you have only to register at the County Clerk's office. If your diploma was not issued by a New York State college, you should have it certified to by Dr. Austin Flint, and then register at the County Clerk's office.

No. 328.—In Buffalo.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE PRESCRIPTION OF EXERCISE.*

By THOMAS M. BULL, M. D.

It is the object of this paper not so much to lay down ertain rules in regard to the best method of developing he body by exercise, and to bring forward facts, figures, nd specimens to prove these statements, as to lay before our minds a few ideas of what may be gained by exercise, nd to give a brief description of some general principles ouching their application.

I do not intend to advance anything new or startling, ut merely to present a few ideas, partly the result of prac-ical experience and partly theoretical, which may help omewhat when next you wish to prescribe exercise.

It is a well-known fact that eminent physicians of the ame school even, and sometimes the attendants at the ame hospital, treat the same diseases in very different, often n diametrically opposite, ways. Frequently a well-known ractitioner comes forward with a series of cases of some evere malady treated with colored water, from which the esults were as good or even better than from the employ-ent of regular methods. The irregulars of every school, om those who use sugar pellets to those who use only faith nd prayer, are very fond of exhibiting their cures and hallenging comparison with the regular practitioners. The dea of giving specific drugs for certain diseases is pretty ell abandoned with the exception of a very few; and even e famous elixir of life, which a few short months ago romised so much, has been dropped into oblivion.

It is owing to this general chaotic condition of medi-nal therapeutics that in the last few years the attention of hysicians has been much more generally given to methods f cure and prevention which did not involve the giving of rugs. As a consequence, the science of hygiene has been ore thoroughly investigated lately, and the therapeutic ses of such measures as external applications, electricity, ld and heat, diet, climate, baths, massage, and exercise e more often employed now than ever before.

It is only with the consideration of the last of these easures that this paper is concerned, since it has seemed me that not enough prominence has been given by phy-cians to the beneficial effects which come from muscular ercise properly taken. One reason why physicians have t prescribed exercise more is probably because they have t had the time to look into the subject thoroughly and e what may be accomplished by it. Another is from the fficulty in getting busy people to carry out these prescrip-ons, and still a third is because physicians, not having a ght idea of how certain ends were to be accomplished, d recommended exercises which, although faithfully car-ed out, would not achieve what was wanted.

For a doctor to tell a patient to "take exercise" is about equivalent to saying "take medicine," and is likely to be followed by about the same results. A patient may injure himself by taking exercise of the wrong kind, quantity, or intensity, the same as by taking a wrong drug or dose. The sooner doctors realize that they must be more specific and careful in prescriptions of this character the better. It is also as important to make the exercise pleasant as it is to make medicines palatable; otherwise it will not be taken regularly or with any relish. In order to prescribe exercise with benefit it is necessary to have clearly before our minds what may be accomplished by it. The following seem to be the most common indications for its prescription:

1. To preserve the health of sedentary people.
2. To reduce deformities.
3. To alter weight.
4. To overcome a tendency to hereditary and organic disease.

I. Every physician is familiar with the long list of ills which are certain, sooner or later, to fasten on those who lead strictly sedentary lives—headache, nervousness, sleeplessness, neuralgias, disorders of the stomach and liver, constipation, hæmorrhoids, and the thousand and one indefinite ailments which render life miserable both to the patient and physician. All of these can to a large extent be prevented, and most of them benefited and cured, by exercise properly regulated as to time, amount, and accompaniments. Exercise acts here as the great balance-wheel to keep up constant motion in all parts. It will enable the sedentary man to eat and digest more, to sleep better, and to go at his work with a greater vim than any other thing. What the special indications are for each one of these disorders it would probably be useless to try to discover or carry out. But the general rules in prescribing for sedentary men are as follows:

1. Consider the man and prescribe something which can be carried out. Don't tell a clerk on eight dollars a week to go horseback-riding at two dollars an hour, or try to have a two-hundred-and fifty-pound man ride a bicycle, because these means are those you enjoy. Don't try to force the inland resident to row, or the one who dwells at the seaside to climb mountains. All are good enough in their places and in proper cases, but as a prescription they are not so likely to be carried out as something more suitable.

2. Whatever you prescribe to patients, have them begin gradually. The novelty of a thing will be apt to make a man overwork at first, in which case he is sure to be disgusted the next day and not likely to try it again if he thinks he will have the same experience. I have known a piano player so used up by his first few minutes with a pair of Indian clubs that he never touched them again. So always give the caution and tell them that if soreness or stiffness follows, it will quickly wear away, and soon no amount of exertion will make them sore.

3. Whenever you prescribe exercise of any kind, be sure you are acquainted with the state of the heart, lungs, and arteries of the patient. Also see if he is ruptured or liable to be. It will certainly increase his respect for you and

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* Read before the New York County Medical Association, June 16, 90.

make him more apt to follow out your prescription if you insist on inquiring into these matters before prescribing. A man liable to apoplexy on excitement or afflicted with a double aortic murmur certainly ought not be in a foot-ball rush line, or one with a commencing inguinal hernia in a tug-of-war, and a great deal of the odium which, in the minds of many, rests on athletics, might be avoided if only those liable to trouble were told so before commencing work. Remember that if you prescribe athletics your prescription can not be carried out on rainy or very cold or muddy days, or in winter. The advantage which athletic has over gymnastic work is, of course, due to the fact that it is done in the open air, and you can secure the good effect of an occasional contact with mother earth, besides the additional influence of the sun, wind, and water. But at least one half of the time it is impossible to take athletic exercise with pleasure or benefit. So, at the same time you give an athletic prescription, instruct your patient to take proper exercise also at home or in a gymnasium, else, if the weather is such as it has been for the last two years, he will be most of the time out of training. Remember that man is a gregarious animal; that exercises which taken alone would be very irksome, if performed in a class are very pleasing. It requires more nerve and perseverance than most men possess to take exercise for which they have no particular liking, the same as they would a dose of medicine. But if they see others doing the same things—if a little emulation is excited—and especially if music, marching, and other attractions are introduced, that which before was disagreeable soon becomes a positive pleasure. It is for this reason that a well-regulated public gymnasium, if easily accessible, is better than a home gymnasium.

Then, again, be careful to instruct your patients what to do immediately after exercise; they are liable to throw themselves on the ground or stand in draughts while still perspiring, and then blame the exercise for the soreness or bronchitis which they experience. I have been a daily, or at least a tri-weekly, visitor at a gymnasium for six years, and during that time have had but one cold. Let them understand that the motion must not cease until they have had a cool bath and a rub with a coarse towel (or the rub alone), and have their clothes on. I have never seen any one catch cold from exercise who faithfully carried out these directions.

II. *Overcoming Deformities.*—The principal deformities we may endeavor to overcome by exercise are the following: Round or drooping shoulders; flat or hollow chest; head too far forward; one-sidedness; deficiencies; spinal curvature.

The general principle to be observed in overcoming deformities by means of exercise is putting the patient in the correct position to overdevelop the muscles which tend to bring the parts into this position, and keep them there. The studying out of just what part needs developing is often very complicated, as in the case of spinal curvature.

In the case of round shoulders the movements to be used are those which tend to develop the interscapular muscles. These may be developed best by carrying the hands from a front to a side, horizontal, either free or against the resistance of pulley weights or dumb-bells.

Sloping or drooping shoulders may be elevated by increasing the size and power of the muscles which raise the shoulders, the scaleni and trapezius principally. The best motion for this is to carry the hands free or with resistance from bells, weights, or rubber straps from a side parallel below to a side parallel above. The same motion which tends to carry the shoulders back also brings out the flat or hollow chest. The systematic protrusion of the chest will also help, and, by contracting the abdominal walls and forcing the contents up into the thorax, as is done when we stand rigidly erect, we may help greatly to bring out the flat or hollow chest.

A very common and very bad deformity is produced when the head is allowed to droop forward. This is generally accompanied by a sinking in of the chest, round shoulders, and a protrusion of the abdomen. The muscles to be strengthened here are the posterior cervical. A very good way to do this is by bending the head forward, grasping the occiput between the clasped hands, then slowly pulling it erect, all the while opposing the action by the hands. If any one does not believe that this motion will make a man hold his head up, try it slowly ten times and then let go; the head will be as erect as the most enthusiastic drill sergeant could desire, and the continuing of the exercise several times daily with an effort to stand erect will certainly overcome this habit. The cure of one-sidedness (and by one-sidedness I mean the opposite of ambidexterity), theoretically is very simple, practically will require an amount of patience which few of us possess. But by using the left hand in every place where it can be substituted for the right, in all the manipulations of the toilet, in cutting food, in playing tennis or fencing, especially when contending with an inferior adversary, very much may b done to make the left hand as strong and dexterous as th right.

To a certain extent parts which are naturally smalle than they should be may be increased by exercise. O course, every muscle has its limit beyond which it can no be developed; but few of those we may be called on t prescribe for have reached that limit. The only rule is t use sufficiently, but not overuse, the muscles of that par In this way the arm or forearm, leg or thigh, may be deve oped and the circumference of the chest increased often i a short space of time. I have frequently seen the circun ference of the arm at the biceps increase two inches an the circumference of the chest four inches during one yea after ordinary growth had ceased.

In the same way the muscles of the neck may be en larged and made more beautiful by bending, twisting, an rotating it. Some even allege that a thin-faced man ma have his countenance become "plump and pleasing" by th contraction and exercise of the facial muscles. This loo well in theory, but, not having had any experience with th method, I can not say what its results in practice are.

The general subject of spinal curvature is altogether t great to be more than mentioned in a paper like this. B I believe that more may be done toward preventing it an overcoming it when present by exercise than in any other way.

The most common form of lateral curvature is where there is a double curve, the convexity being toward the right above at about the level of the scapula and toward the left below. This is generally produced by the habit of carrying children on one side only, by overuse of one side, and by sitting with the right side at the desk in school.

There is a great diversity of opinion about the best way of curing it. The way generally adopted now is to exercise the muscles over the convexity, or, placing the patient in a straight position if possible, to give exercise while in that position. Pulley weights are a very valuable adjunct in the treating of this oftentimes very troublesome deformity.

Always in trying to overcome deformities remember what a potent factor the will is, and that, in order to be successful, one must constantly endeavor to have the patient do all he can by his own will. This is especially true in regard to the deformities which can for the moment be greatly improved by muscular action, such as those of the shoulders, chest, and neck. Indeed, I believe that the wonderfully erect carriage of the West Point cadet is due as much to the *esprit de corps* there as to the famous setting-up drill. This drill, however, is admirably adapted to produce and maintain an erect carriage, and I would recommend it to any one who wishes to acquire one. It may be found in Upton's *Military Tactics.*

III. It seems almost like quackery to say that the same measure will either increase or diminish weight. But, as an adjuvant to other measures, I know of nothing better than exercise.

In order to reduce weight it is necessary that heavy and long-continued exercise be taken. In addition, heavy clothing or a sweater should be worn, and then, if water or any other fluid is abstained from and the supply of fluid diminished, it is certain that the weight must come down. The trouble here is that fat men are generally indisposed to exertion and can not confine themselves to this rigid training for any length of time, and it requires the will of an "Iron Chancellor" to keep up the necessary regimen.

To increase weight an opposite course should be taken —only just enough exercise to give a good appetite and digestion and sound sleep; then, if plenty of good, nutritious, and fat-forming food is taken, together with tonics if necessary, we are doing all we can to increase weight.

I have often seen men's weight increase or diminish many pounds as the result of following out these plans. It is easier generally to diminish than increase, if the patient will work hard enough and obey directions implicitly.

IV. It is not certain whether the tendency to organic or hereditary disease may be overcome by exercise in all cases or not. The subject is too great to enter into in a paper of this kind and without a large and long experience in the prescription and effects of exercise. But it seems reasonably certain that in pulmonary diseases, if the lungs are kept thoroughly aerated and expanded daily, there would not be anywhere near as much liability of the tubercle bacillus finding lodgment in some unused spot.

Then the high grade of general health which a proper amount of exercise tends to develop is the best possible safeguard against the encroachment of morbific germs. This is shown well in the case of ordinary colds. I have repeatedly seen people who, before taking exercise regularly, were afflicted with colds nearly all the time, but afterward had a great many fewer or none at all. And right here I should like to mention a little plan to avoid taking cold when exposed to a draught. Many of us are frequently exposed to draughts when we are in company and can not avoid them. If a person in this position would rapidly and strongly contract the large body muscles, or opposite plates of those attached to the limbs, by means of which a great deal of force may be exerted and but little motion caused, he will have no fear of a draught producing a chill. By contracting in this way the muscles which cause adduction of the arms while the arms are at the side, I can in a short time produce a very comfortable state of perspiration, and certainly ward off any bad effects of a draught.

In regard to the effect of exercise on diseases of the heart, I have seen cases which were diagnosticated by several physicians as mitral regurgitant gradually grow less prominent and disappear. I have often seen cases where the heart sound was roughened, accentuated, or indistinct, improve rapidly and acquire a perfect sound when the only change was in taking regular exercise. In the case of hearts, when the only trouble was excessive rapidity, intermittency, or irregularity, I have seen improvement follow very rapidly. And I believe that one of the best prophylactics against the development or extension of almost any hereditary or organic disease is muscular exercise properly taken. And, in conclusion, I should like to say that, in my opinion, the value of exercise is not exceeded by that of any single therapeutic measure. I am certain that all of us have seen patients for whom it would do more than any other thing consistent with their lives and occupations.

And if we were able to intelligently prescribe, and so get all the good possible out of, exercise, I am confident we should be able to do many patients more good than in any other way.

TIC DOULOUREUX

RESULTING FROM AN EXOSTOSIS ON THE SEPTUM NARIUM.*

By E. M. GILLIAM, M. D.,
COLUMBUS, OHIO.

As this is the age of invention, so it is the progressive era of medicine. Investigators of to-day are making strenuous efforts to advance new facts, while teaching is being put on a practical instead of a theoretical basis. This continuous contention for advancement is not confined to any one particular branch, but each has its champions, who are improving on the tenets of their predecessors.

This is evidenced not only in eye, ear, gynæcological, and surgical work, but also in that branch which, but a few years back, was in its incipiency, but has recently been brought forward as dealing with the *fons et origo* of many important neuroses. I refer to rhinology. To such reflex troubles as neuralgia, hemicrania, chorea, epilepsy, neurasthenia, and asthma, which sometimes result from pathological conditions in the nasal cavities, we may give credence, but whether many other diseases of supposed reflex origin can be attributed also to such abnormities is as yet a question *sub judice*, for a true reflex physiology teaches us that three conditions are essential: 1, a sensitive nerve fiber; 2, this must be in connection with a central nervous cell; 3, the latter connected with a motor organ. Flint ascribes to the term reflex any generation of nerve force which occurs as a consequence of an impression received by a nervous center. It is probable that no part of the body is so susceptible to reflex tendencies as the respiratory tract, and one of its most exposed parts is that of the nasal mucous membrane.

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* Read before the Central Ohio Medical Society.

This membrane has an exceedingly delicate nerve structure ramifying through it, and abounds in blood-vessels. Without going into the intricate details of the anatomical structure of the turbinated bodies, I shall only call attention to the most salient points which concern us at present.

These bodies, numbering three in each chamber, are covered by mucous membrane, having on its external surface flat epithelium, and the deeper layer forms the periosteum of the turbinated bones. Between these two layers there is abundant lymph tissue, studded with numerous glands whose function is to secrete mucus. The arterial supply is derived principally from the spheno-palatine artery. The capillaries are divided into three sets—one set being distributed to the periosteum, the second to the glands, and the third to the surface. The nerve supply is derived from the olfactory nasal branch of the trigeminus and filaments from Meckel's ganglion.

Hypertrophied turbinated bodies are perhaps the most frequent cause of nasal stenosis. Now this condition may be brought about by continuous irritation of the erectile tissue, causing either a diminution or paresis of the contractile powers, resulting ultimately in an increase of fibrinous material. What is the result? Occlusion or partial stenosis of the chamber, damming up the secretions, producing decomposition, which in turn irritates and perpetuates the low grade of inflammation already existing, by this means adding new material to the hypertrophied state.

This, in connection with a deviated septum or bony growth, may eventually result in a reflex neurosis by the contiguous surfaces encroaching on each other, producing pressure and nerve irritation.

Such conditions are sometimes met with in those persons whose occupation requires them to breathe certain irritants, such as workers in acids, file-works, or places where much dust is continuously circulating. Bony growths are also frequently found in the nasal cavity. The most common is that of the spinous process which arises from the superior maxillary bone, projecting and causing partial occlusion of the inferior meatus.

The septum narium at its junction with the anterior floor often becomes thickened by increase of its cartilaginous tissue and may produce a process of the size of a pea. This condition may arise from a gouty or rheumatic state of the system. The tubercle of Zuckerkandl is sometimes mistaken for an exostosis, as it occasionally attains considerable dimensions. Exostoses may also appear on the septal wall and, in exceptional cases, cause more or less irritative disturbance. In the following case such actually occurred, and, by removal of the cause, resulted in a complete relief if not a permanent cure.

Mr. J. G., aged fifty-six, rugged in appearance, hereditary tendencies and habits good, had for several years past been a great sufferer from tic douloureux. Many physicians were consulted, but only temporary benefit was received. On advice, he repaired to the dentist to have his teeth examined, in hopes of eliciting a cause. Several decayed teeth were extracted and other operations performed, but all in vain; the trouble still persisted. The pain started at the upper lip, darting along the left side of the nose to the forehead.

These pains were paroxysmal and atrocious, during which he would pace the floor, wringing his hands while tears coursed down his cheeks. The attacks followed each other in rapid succession, incapacitating him for business weeks at a time. When they were very severe in character the left side of the face would swell; and as for food, he dare not indulge for fear of aggravating the pain. This condition existed for some time, becoming much worse in damp and cold weather, ameliorating during dry spells.

In the early part of October, 1888, he consulted Dr. D. Tod Gilliam, who advised an operation. A few days after, assisted by the writer, Dr. Gilliam performed stretching of the supra-orbital and infra-orbital nerves. This gave relief until September, 1889, a period of nearly eleven months, when the patient came to the office saying the paroxysms had returned, but not so severely as before. Noting the somewhat stuffed condition of the nose, the thought struck me that perhaps that organ would reveal something that might help us out. On examination, there was found an extensive hypertrophied condition of the inferior turbinated body in the left chamber, and on the septum narium behind the junction of the vomer and triangular cartilage a hard, immovable body, light-pink in color, and bleeding easily when touched with a probe.

This proved to be an exostosis and impinged firmly against the inferior turbinated, entirely occluding the lower channel of the nares. On applying a four-per-cent. solution of cocaine, the membrane covering the inferior turbinated bone retracted slightly, allowing the probe to pass between it and the bony growth, revealing an excoriated surface on the mucous membrane. Stating to him the character of the nasal trouble and the possibility of it being the cause of the neuralgia, I advised as a *dernier ressort* an operation, to which he readily consented.

On September 20th, after cleansing the cavity with Dobell's solution, cotton plugs saturated with a four-per-cent. solution of cocaine were introduced to procure as much dilatation as possible. After inserting a bivalve speculum and thoroughly illuminating by means of condensed light, a sharp-pointed, curved bistoury was used to separate the mucous membrane covering the exostosis. This being done, Bosworth's nasal saw was brought into play and, after much trouble, the growth removed, leaving a slight depression in the septal wall. During the operation the hæmorrhage was profuse, ofttimes obscuring the field completely from view, the cocaine seeming to have no effect in curtailing it. The operation was almost devoid of pain. After cleansing again with Dobell's solution, a tampon of absorbent cotton saturated with cocaine was inserted, which seemed to have the effect of restricting the flow of blood.

The patient returned on the 23d saying his nose felt somewhat freer, and that he had had no recurrence of the pain to speak of since the operation.

After cleansing the wound it was found to be healing kindly, and on the 10th of October it was entirely well. It was next thought best to reduce the inferior turbinated body.

Instead of pursuing the older method of smearing a probe with chromic acid and running it along the elevated surfaces of the mucous membrane, by which means unnecessarily much tissue and glands are destroyed, a more conservative course was resorted to, which consisted in pinning down the mucous membrane to the underlying structures. A slender probe being dipped in mucilage, then into the chromic acid, enough of the crystals will adhere to form a bead on the end of the probe when held over a flame. Now, having the tissues thoroughly contracted by cocaine, the probe is touched only to those parts which by their elevated aspect reveal an abnormal amount of fibrinous deposit. This has the effect of constricting permanently the venous sinuses and arterial channels, cutting off the excessive nutrition to the parts without obliterating or hindering the function of the mucous glands.

These applications were made at intervals of one week until he had had five séances. By this time the membrane was pinned thoroughly down, leaving quite enough space for a free current of air.

From the day of the operation to the present time he has had no recurrence of the trouble, so that, although I am not prepared to state whether the result will be permanent, I am convinced of the nasal trouble being the salient factor in the case.

A CASE OF INVAGINATION OF THE BOWEL.

By M. M. ADAMS, M. D.,

GREENFIELD, IND.

Noble M., eleven years of age, while at play sustained a heavy fall on his back by being tripped backward by a schoolmate. He soon became very sick, and went home complaining of cramp in his stomach and abdominal pains. From September 5 to 15, 1885, I had treated him for an attack of enteritis, and at that time I was apprehensive of obstruction, because of the difficulty experienced in moving his bowels, there being a tenderness and elevation in the right iliac region, but no marked tumor. This, however, passed away after a free movement of the bowels, but every few months I supplied the family with a phial of anodyne and stimulant to relieve sudden and severe attacks of pain in the stomach and bowels, which were attributed to indigestion, relief being obtained by a few doses followed by a cathartic, leaving him very sore for a few days, as in the case of one having had cramp colic. He was a boy of light weight, nervous, and endowed with more than ordinary courage and endurance for one of his years. On December 16, 1889, I was applied to for a remedy for the pain caused by his fall. Relief did not follow, as in former attacks, and at ten o'clock on December 17th I was sent for.

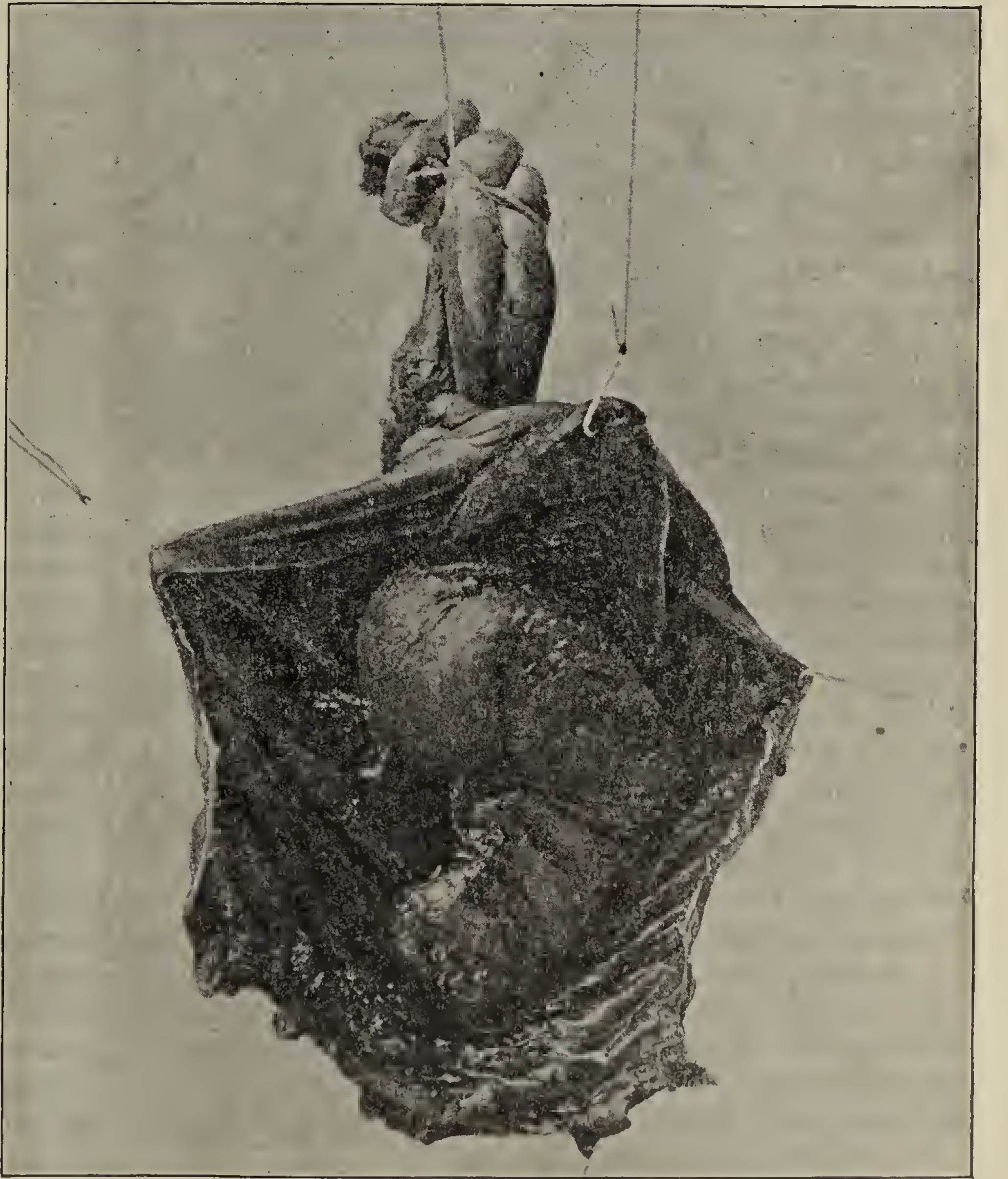
On my arrival I noted the anxious expression of countenance usually observed in cases of wounds of the bowels. He was lying on his right side with knees drawn up, and evincing signs of severe suffering. The history of the fall was detailed to me, and I was further informed that soon after the fall he had had two copious evacuations from the bowels, largely composed of blood. This fact had not been made known even to the boy's mother until the day of my visit. Up to this time I had made no examination, but I at once suspected invagination of the bowel. Placing my hand on his abdomen and moving the palmar surface from the upper to the lower part, I at once located a tumor in the right iliac region, extending well up toward the hypochondrium, thus supporting my suspicion as to the intussusception. He had vomited a green, watery fluid a few times through the night and morning, but there was no fæcal odor. The abdomen was not distended—in fact, it felt flaccid and empty.

I prescribed a sixteenth of a grain of morphine with a quarter of a grain of calomel every hour for a few hours, until nausea ceased, allowing no cold water, but a liberal quantity of hot When I saw him, at 6 P. M., he had become quiet, his stomach retained ingesta, and he was allowed some milk with barley-water. A rectal injection of three pints of hot salt water brought away clotted blood, and the water was stained a cherry-red, as was the next injection, six hours later, but no fæcal matter was discharged.

December 18th, 8 A. M.—No fever; pulse quite regular and 100 in a minute; tongue rather dry, slightly coated, and of a grayish-brown tinge; abdomen very tender over the ascending colon, and tumor very distinct. He craves water often.

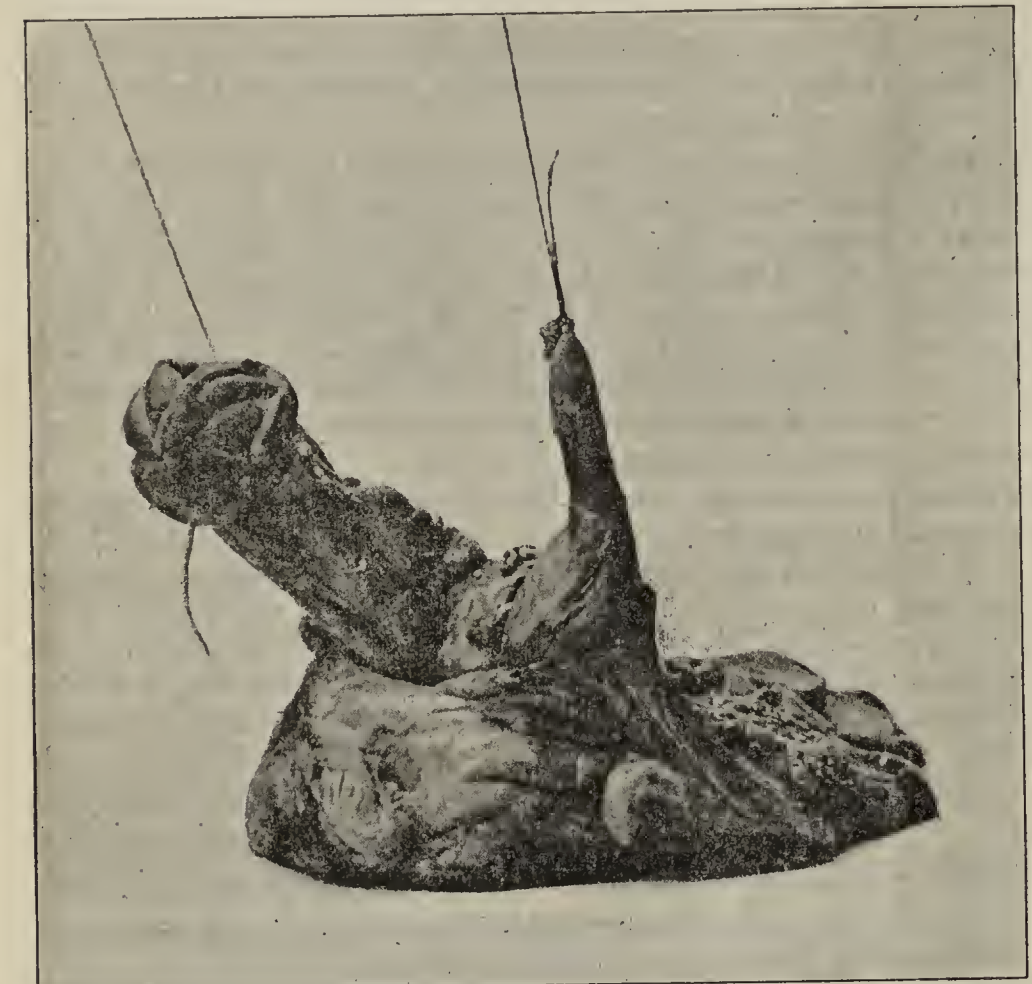
19th.—He is growing very restless, requiring anodynes every three or four hours to enable him to be kept in bed. Morphine, one eighth of a grain; atropine, one one hundred and fiftieth of a grain, administered at such intervals.

For the next three days he remained about the same; there was no vomiting, no fever, and the pulse ranged from 100 to 120. He was fed on milk and barley-water, and copious enemata of milk were given every three or four hours. A few times the enemata brought away fæcal matter, which rendered



the case a little more hopeful. The fact of the hæmorrhage being an early symptom rendered it hazardous to use forcible injections.

23d.—Dr. S. M. Martin was called in consultation. The patient's pulse 112 to 120 morning and evening, abdomen greatly distended, no vomiting. Urine has been passed every four to five hours in fair quantity, but usually when the patient was up to discharge the injected milk.



24th, 8 A. M.—Rested well the first half of the night. At midnight the pain returned with renewed severity. Abdomen more tympanitic. Treatment continued.

25th, 8 A. M.—Quiet and bright. Bowels less tense. At 8 p. m. he became restless, the usual dose not affecting him. Chloroform by inhalation was resorted to to palliate his suffering. At about eleven o'clock stercoraceous vomiting set in.

26th, 8 A. M.—Pulse barely perceptible, surface cool, temperature 97° F. No fæcal matter passed after the last few injections, though they had been used to the full capacity of the colon. Brandy by the rectum was resorted to, with milk every three hours. Aromatic spirits of ammonia and wine were given alternately; morphine and atropine as before. At 2 p. m. Dr. Comstock and Dr. Boots were called to see the case. The patient had but partially rallied from the collapsed condition of the morning. All that had been done was fully indorsed, but no satisfactory conclusion as to the exact diagnosis could be arrived at. All concurred in an unfavorable prognosis and in the opinion that a few hours would end the patient's sufferings. Treatment was continued.

At about 10 o'clock a. m. on the 27th vomiting ceased, and up to January 3, 1890, the patient rested well for several hours at a time, and the injections, which were continued, failed to bring away either blood or fæces. On the 3d, however, vomiting returned at about 6 p. m., and continued for twenty-four hours, when death ensued.

Twelve hours after death a post-mortem was made. Rigor mortis fairly well marked, no post-mortem changes. On opening the abdomen, it was found that the omentum had been nearly all absorbed, only a few floating shreds remaining. The colon was empty, both transverse and descending; the small intestine was distended with gas. The tumor was found to consist of a portion of ileum, several inches of which had passed through the ileo-cæcal valve into the ascending colon. The accompanying illustrations show the coiled condition of the impacted bowel, which was gangrenous. No inflammatory action had been set up except a recent patch in the right hypochondrium, a patch of peritonitis. There was one little ulcer in the jejunum that would admit a darning needle, but it was agglutinated so that no contents of the bowel had escaped. All of the abdominal viscera presented a macerated appearance, and there was a little viscid liquid in the peritoneal sac.

Dr. Martin was called in consultation at about the time the fæces were returning with the injections (December 23d). We were of the opinion at that time that an obstruction existed in the bowels, but could not determine as to its character. We were somewhat confused, too, by the absence of stercoraceous vomiting up to the ninth day, and the (to us) unusually large quantity of blood in the stools and passed in injections under our observation.

Query: Would a physician or surgeon have been justified in making an exploratory incision to ascertain the true condition of the case? Would there have been a reasonable probability of benefiting the patient by an operation under the circumstances?

BLINDNESS
FOLLOWING CEREBRO-SPINAL MENINGITIS,
*WITH RECOVERY AFTER TWO YEARS.**

By WILLIAM L. STOWELL, M.D.

Joseph K., born April 28, 1887. Well until March, 1888; then had an attack of cerebro-spinal meningitis from which he recovered slowly in about six weeks. Before he had entirely recovered it was observed that he was blind. The eyes kept their normal external appearance.

In August, 1888, the boy came under my care for acute lobar pneumonia. He was then blind and had nystagmus of both eyes. Although the temperature reached 105° and the pulse over 200 to the minute, he made a complete recovery from the lung trouble.

In October, 1888, he went through a regular attack of measles.

In February, 1889, his ailment was croup.

He enjoyed good health from that date until March 16, 1890, at which time a cup of hot tea was spilled on his right shoulder and chest. This caused only usual symptoms until three o'clock the next afternoon, when he began to have violent convulsions which continued until nine o'clock. At that time I saw him, and gave chloroform, followed by bromide of potassium and chloral. The convulsions were most marked in the left half of the body.

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, May 8, 1890, and the patient presented.

The next morning he was found to be paralyzed in the upper and lower extremities of that side, and there was some paresis of the face. The tongue is deviated slightly to the left. Some rigidity followed, but this is gradually disappearing.

To return to the feature of special interest, last summer the child's eyes were examined at the New York Eye and Ear Infirmary, and the diagnosis of atrophy of the optic nerves was made.

This was in accord with my own diagnosis, which had been optic neuritis with atrophy following.

I had regarded the prognosis as very bad indeed. About six months since, the family observed that the child appeared to notice movements and to use the left eye. He now sees quite well with the left eye, but less clearly with the right, in which there is still nystagmus. The optic disc in the left eye is getting to its normal condition. That of the right eye is bluish in tint and the vessels are indistinct in it. Hearing and mental faculties good from time of recovery from the meningitis.

As this is only a clinical report, I will make no further observations on the pathology, etc.

PARANEPHRIC CYSTS.*

By ROBERT ABBE, M. D.

The variety of cystic tumors one may encounter in the abdominal cavity is not great.

Ovarian, parovarian, salpingeal, in the female, and hydatid, pancreatic, distended gall-bladder, and hydronephrotic cysts and pus collections, which are common to both sexes, are about all which one will find. Exceptionally one may meet a cystic tumor that will have an entirely different clinical history and require different treatment. There may be variations of the above, as the cyst of an extra-uterine pregnancy, or one of the class under consideration which heretofore may have been ranked with hydronephrosis of he common type. It is proper that they should be differntiated, clinically and anatomically, and it is with a view o giving a suitable rank to this class that I present the istory of two striking cases that were extremely puzzling o me until laparotomy cleared up the nature of both :

CASE I. *Large Paranephric Cyst; Exploratory Laparoto-ny; Incision and Lumbar Drainage; Cholesterin in the Fluid; Recovery.*—A lady of forty-eight years, referred to me from Dr. ellet, of Hamburg, N. J., was in fair condition when first seen by ne on August 12, 1889. She gave no history of special illness ex-ept an attack of inflammation of the kidneys lasting two weeks, eventeen years ago. Since that time the functional activity of he kidney has been normal and, as far as she has been aware, othing unusual has occurred in the appearance of her urine. he had excellent digestion and health. No members of her amily ever had tumors of any description. She had seven hildren in the past twelve years without unusual event. Four ears ago she first noticed a swelling of her left side, not hard, nd extending from the left loin toward the groin, about as long nd as broad as her hand. It was painless and did not seem to ow for two years or more. Her health not being affected, she aid little heed to its presence, though she says she at first con-ulted Dr. T. G. Thomas, who said it was connected, he thought, ith her kidney. As it enlarged it filled the left iliac fossa, encroached on the median line, passed the level of the umbilicus, and grew upward to the ribs. During the past few weeks it has grown much more rapidly, and there has been a dull aching in the back.

Her general health has not deteriorated.

On examination, a large tumor was found to fill the left half of the abdomen, extending across to the opposite iliac fossa. It seemed like a large cyst, constricted somewhat vertically, the median portion dome-shaped, with the navel at the summit.

The tumor filled the left iliac fossa and extended well across into the right. It rose into the left lumbar and hypochondriac region and raised the costal cartilages. A sulcus marked its surface obliquely to the left of the median line, and in this portion was resonance, as of an adherent intestine lying more or less vertically. Elsewhere the tumor was entirely dull on percussion. Auscultation was negative.

Vaginal examination reveals a large patulous cervix, the uterus pushed backward and to the right, and movable independently of the tumor. The latter fills the anterior portion of the pelvis and gives a sense of resistance like a thin-walled cyst. The general appearance was of an ovarian cystoma of large size composed mainly of two principal cysts. The most unaccountable feature was the oblique intestine confined to its surface. This was suspected to be adherent. On account of her history that Dr. Thomas had thought it renal in the early stage, the urine was carefully observed. It was of rather low specific gravity, 1·010; acid; no albumin, and contained a few pus cells and epithelium—not enough to give the slightest suspicion of renal trouble.

On August 14, 1889, I made exploratory median laparotomy. The cyst presented at once in the incision, but differed entirely in appearance from an ovarian cyst. It was invested by an independent loose peritoneal covering, with large vessels traversing it laterally. The presenting adherent intestine was evidently the descending colon raised from its normal bed. The hand, being introduced into the abdomen, was passed over the face of the tumor downward to ascertain its base of origin. It dipped well down into the pelvis, then up behind it freely to the ilio-lumbar region. Laterally it passed over the smooth surface into a sulcus in the left loin, where the peritonæum reflected on to the tumor at the site of the normal colon, which, however, had been raised far away from its site. On the median side the hand passed around the cyst and returned beneath it to the region of the left kidney. Above, it passed freely over the top, and, reaching the diaphragm, slipped down behind the cyst again to the kidney region.

It was evident then, from all sides, that the tumor originated about the left kidney, and that it had best be opened posteriorly. At the same time, to avoid opening the peritoneal cavity posteriorly, it would be necessary to keep well behind the reflection of lumbar parietal peritonæum. Therefore, while protecting the anterior wound with hot compresses, yet maintaining my hand within to define the peritoneal limits, I made a free lumbar incision as if for colotomy. Rapid evacuation of the contents took place and the cyst collapsed so completely that it was difficult to detect its remaining thin walls by the hand in the abdomen. The colon descended nearly to its normal site.

The most noticeable feature observed was the spread-out kidney. It was not distended, but flattened out against the loin, a crater-like rim being felt on its surface, marking the bed from which the cyst sprung. This was an unmistakable feeling, and was recognized by manipulation through the lumbar as well as the abdominal wound, but best from in front. Some time was taken to discover if possible any connection between the cyst and the pelvis of the kidney, but no sense of distended calyces or funnel-shaped pelvis was present; and it was completely evident that the cyst was independent of the renal pelvis. The anterior wound was closed, and large drainage-tubes introduced through the lumbar wound into the cyst.

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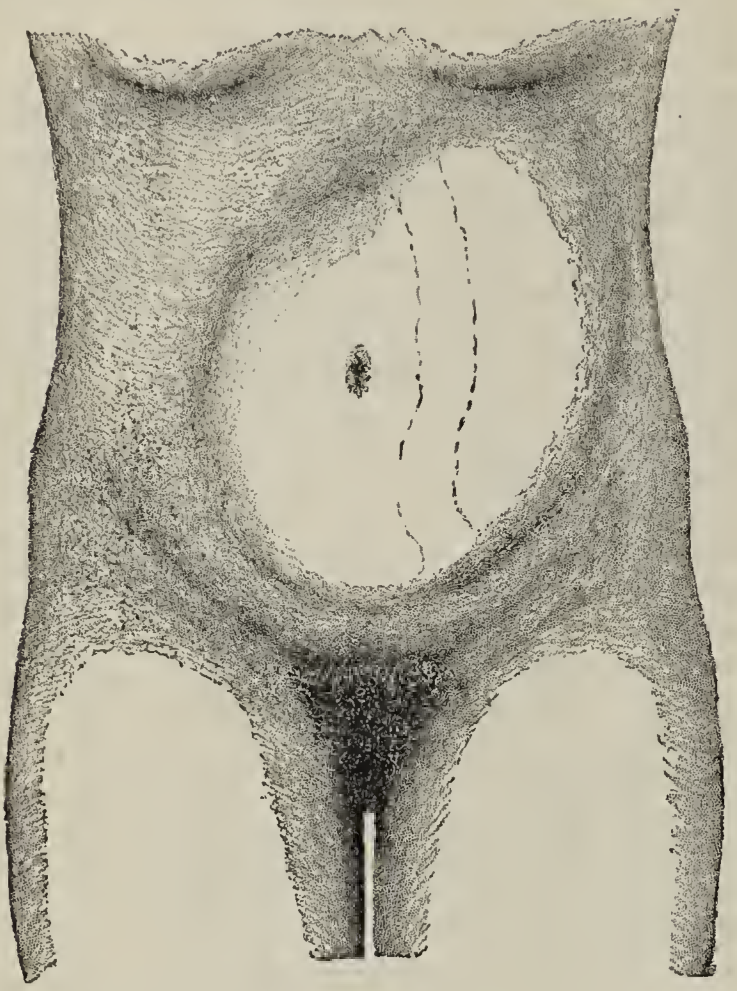
* Read before the New York Surgical Society, April 23, 1890.



The fluid evacuated was as remarkable as the cyst. It measured between ten and twelve pints, was of a pinkish milky color, thin, turbid, and glistening with myriads of cholesterin crystals, which, on standing, deposited to the amount of one fifth the bulk of fluid. The latter was of specific gravity 1·030; contained a large quantity of albumin; microscopically, cholesterin, red blood-cells, a large number, and a trifling number of pus cells; large multinuclear cells, granular round cells, irregular granular masses, and free fat. The patient made a speedy and uninterrupted convalescence. The urine was watched for possible appearance of crystals of cholesterin, which certainly had not appeared before operation. On the day following operation a trace of albumin, a few casts, and a few cholesterin crystals were found, but never afterward. These may readily be explained by the manipulation and probing during the operation, which may easily have lacerated some part of the delicate sac. No urine ever appeared at the lumbar wound.

Under irrigation and drainage the cyst closed, so that in four weeks it would hold but four ounces on distension. In six weeks she was discharged cured, a slight sinus remaining which healed soon after her return home. Since that date, more than six months, the patient has remained perfectly well; has gained thirty pounds in weight, and is actively employed at home.

The second case presented itself three months later.

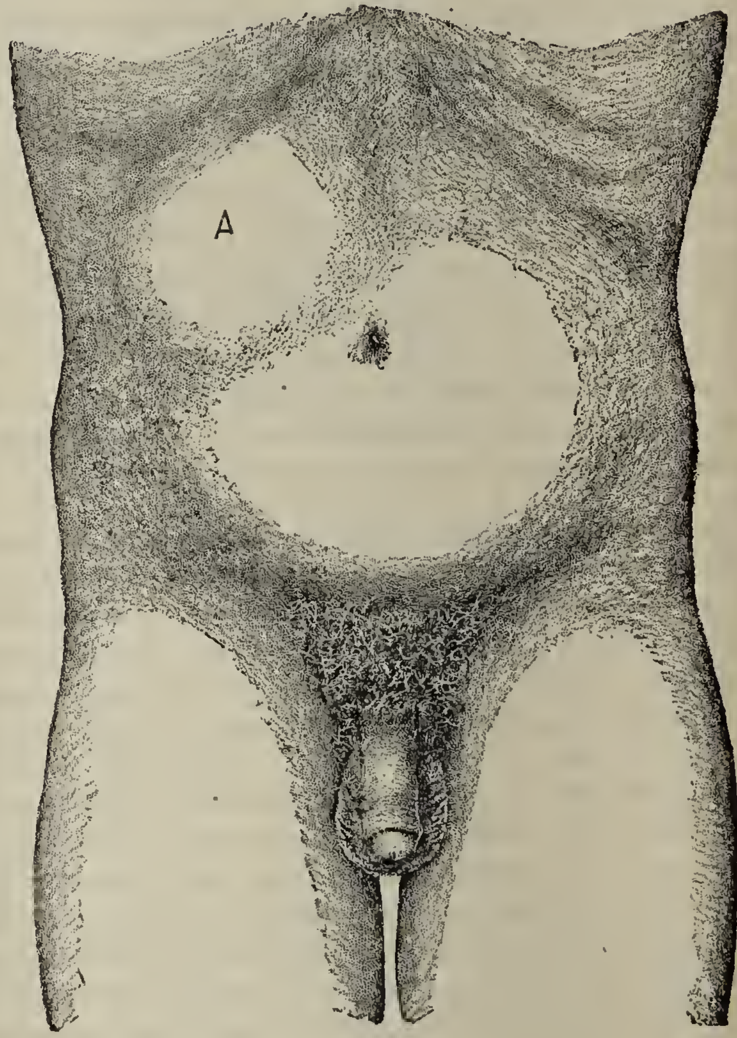
CASE II.—The patient was a young lawyer, aged twenty-three years, of good physique. About the 1st of September he was taken with acute pain in the right hypochondrium, nearly in the region of the gall-bladder, and simultaneously noticed a large swelling at the site of the present tumor. When he was seven years old, and again at fifteen, he remembers to have had similar attacks. He had no fever with this attack and the pain gradually subsided.

He came under the care of Dr. Kinnicutt and Dr. Draper, with whom I saw him on October 3, 1889. He seemed to be in good health, excepting that he had a tumor in his side that gave him a little pain.

His normal pulse was 55. Temperature varied from 98° to 99° during two weeks' observation before operation.

Examination showed a globular tumor of the abdomen in the right hypochondriac region, the apex of which lay between the point of the tenth rib and the navel. Palpation showed it to be of very even surface, but more prominent near the point of the tenth rib. It sloped equally in all directions. The loin was also filled by it, so that pressure there raised the summit, but there was no lumbar prominence as there was in front. The liver boundary was raised three quarters of an inch upward. The tumor descended to the level of the navel and extended across the median line. This was discovered rather by palpation than percussion. The colon was pushed downward. There had been no jaundice. The urine was normal. Palpation in different attitudes revealed a lateral movement of the mass of two inches. There was no history of renal colic, with its characteristic pain.

On first examination, my conclusion was that we had to deal with a greatly distended gall-bladder. The following points were a fair guide to this decision: 1. There was an absence of history of renal symptoms. 2. The tumor was evidently a fluid one. 3. The position was considerably higher in the abdomen than the tumor of hydronephrosis. 4. The rotund fullness was most pointed at the apex of the tenth rib and enlarging thence toward the navel. 5. The history of this attack of acute pain, with two preceding ones in former years, was like that of gall-stone impaction. During the two weeks following the patient had no pain; walked about and drove out.



Further examination showed a slight increase in growth across the median line, with less fullness between the navel and the tenth rib. While admitting the possibility of this tumor springing from the kidneys after the fashion of the paranephric cysts, the case previously narrated being fresh in my memory I was yet more inclined to regard it as occupying the site of the gall-bladder when distended. It may have had a little more latitude of motion than a gall-bladder of similar size, and possibly could be said to be more full in the lumbar region than that.

The patient was eating and sleeping well. Urine was normal in specific gravity and reaction; had no albumin, or sugar, or abnormal elements on microscopical examination. The presence of the tumor, however, was a menace to him, and therefore, after consultation with Dr. Draper, Dr. Kinnicutt, and Dr. Bull, I operated under ether on October 22, 1889. Incision vertical, as for cholecystotomy. On opening the abdominal cavity, the presenting surface of the tumor was at a glance, as in the former case, seen to be covered by the posterior peritoneal wall of the abdominal cavity, indicated by the appearance of the large vessels traversing it laterally, and by the relatively loose attachment of peritonæum to the tumor. The fingers, passed into the cavity, found the liver free, but pushed upward, and the gall-bladder normal. Passing backward, the possibility of hydatid cyst springing from the liver was excluded. The slope of the tumor in all directions was backward toward the loin. It was free from adhesions on every side.

While conducting these explorations somewhat vigorously, the peritoneal layer investing the tumor was seen to grow rapidly œdematous and puff up so as to fill the incision. Growing rapidly thinner, it burst open in the wound as I attempted to secure it with forceps, and gave exit to a rapid flow of watery, colorless, limpid fluid, sufficient of which was caught for examination. The presenting rent was secured in the wound, and the fluid kept out of the peritoneal cavity. The rent was enlarged, and the flow seen to come from the loose-meshed retroperitoneal tissue. The tumor so rapidly disappeared and its remnant sank back into the loin so quickly that it was difficult to identify any distinct cyst wall among the cellular tissue, and it was deemed unwise to strip up the peritonæum for further exploration. The evacuation being completed, an estimate was made that two pints of fluid had escaped.

A digital examination of the site of the tumor was made. The rent in the peritonæum was two inches above the colon at its hepatic flexure. The liver was entirely uninvolved. The finger passed backward to the aorta and renal vessels, thence downward around the colon and over it to the kidney, whose entire surface was palpated. The lower end was round, smooth, and normal. The rest of its surface was not quite as even as natural, and was spread out into four flattened lobulations. The collapsed tumor sac and adjacent colon fell back so as to cover this area, and no trace of other abnormal condition could be discovered. The posterior rent was therefore stitched to the abdominal incision and the latter closed, except for drainage of the retroperitoneal space, through which the fluid had escaped. My original intention had been to drain posteriorly if I found such a renal cyst, but the bursting of the sac required anterior drainage.

The cyst fluid was of very low specific gravity—1·003. It contained a trace of albumin; no urine salts; no bile salts; no hydatid elements; some chlorides. During evacuation hydatid daughter cysts were watched for but not seen. The diagnosis, therefore, must remain of thin-walled cyst of the surface of the kidney, growing so as to distort the organ by surface pressure.

After operation, free drainage of limpid fluid continued for thirty-six hours, when it rapidly lessened, and his convalescence was uninterrupted. His temperature fell to normal in four or five days. On the fourth day he had considerable albumin appear in his urine, with casts. All disappeared during the four days succeeding, and he was discharged cured during the fourth week.

He has since been carefully examined by Dr. Draper, nearly six months after operation, and he remains free from all signs of trouble.

There seems in the cases given to be evidence that in both we had renal cysts *not* of the usual type of hydronephrosis. The pelves of the kidneys were not the seat of distension, and excepting that, through scratching, a few cholesterin crystals entered the urinary channel a few hours after operation, there was no contamination of the urine by the cyst contents.

The retention cysts of the renal cortex resulting from fibrous change in granular kidney are usually multiple and rarely attain much size. They are bilateral also. Congenital cysts are very rare and due to cystic degeneration of rudimentary tubes. The kidney substance is not left in bulk as in the cases narrated, but attenuated or wanting, and the victims of this deformity are apt to have other deformities and die in infancy. Simple cysts and paranephric cysts, however, are of a class by themselves that directly concern the surgeon by their rarity and importance.

The pathology of their origin is not easily ascertained, as they have usually so attenuated the capsule of the gland and compressed the neighboring cortex as to make it impossible to say whether they sprang from the meshes of the cellular layer beneath the capsule, or from the Malpighian corpuscles, or from their investing cellular layer, or from lymphatic channels. The contents of the cyst give no clew to its origin; they are as various as in cysts elsewhere, varying from clear aqueous contents of very low specific gravity and containing a trace of albumin and salt through every grade of colloid and straw-colored serum. Usually clear, they may have such ingredients as cholesterin, which results from the degeneration of any fatty or cellular substance, or, as seems most probable, of blood. They never have urinous elements in solution.

This uncertainty as to origin entitles such tumors as have been described to the name of paranephric cysts, *resting upon* the kidney, there being no evidence that they arise within the cortex. The recorded cases are not very numerous. They have been known to grow to larger proportions than the first one I have mentioned, and to have been mistaken for ovarian tumors. This seems extremely easy to do if one regards the shape and fluctuation of the tumor and the appearance of the patient. If an early history of growth in the ilio-hypochondriac region can be elicited, or if the physical examination reveals a course of the intestine over its surface, such as the colon took in one case under consideration, it would give a strong point toward differential diagnosis. In my second case the relation of the colon was also of interest, it being pushed down and in front of the tumor. This is perhaps one of the best points for diagnosis that the colon is usually in front of a renal tumor. Yet, as Morris says, an exceptionally large renal tumor will push the colon aside, and, on the other hand, a portion of intestine will occasionally though rarely fasten itself in front of an ovarian cyst.

As regards the second case, which resembled a distended gall-bladder, I may say on reviewing it that the tumor, while not less prominent than a gall-bladder cyst, was perhaps *less pyriform*, *more movable laterally*, and somewhat more easily raised by lumbar pressure than even a large gall-bladder would have been. Its position was too high for the usual hydronephrosis.

The successful treatment of all serous cysts by incision and drainage makes it probable that no other treatment would have been more successful or less dangerous in these cases. The first case of large cyst shows that a lumbar incision without guidance from within would have probably penetrated the peritoneal sac before entering the cyst, on account of the persistent reflection of the peritonæum close to the kidney, in spite of the fact that the colon had been raised to the surface of the cyst. Exploratory aspiration also would have allowed the muddy cholesterin fluid to empty somewhat into the peritonæum if puncture had been made anywhere but close to the kidney.

A CASE OF HEMIPLEGIC EPILEPSY,

PROBABLY DIABETIC, SIMULATING CEREBRAL ABSCESS.*

By ROBERT ABBE, M. D.

THE case the history of which I am about to narrate presents features of much interest to the physician as well as the surgeon, and bears directly on diagnosis in cerebral surgical disease.

The patient was an active man of forty-four years and in exceptionally good health until attacked by the grippe on last Christmas. His influenza was of a severe type—general pains, prostration, sore throat, cough. The sore throat seems to have been the worst, and swallowing was difficult. Two or three days later severe pain began in the left ear, and suppurative otitis media was established. The discharge diminished but never ceased. He was unable to resume work, lost flesh and strength. There were no cerebral symptoms, and he was able to be about. A few days after the onset of his trouble—that is, about January 1st—he observed a marked increase in the frequency and quantity of urination, but no examination of it was then made.

In February he noticed a growing difficulty in giving expression to certain words. This and the patient's general condition seemed a little worse on alternate days. He had one or two headaches weekly, mostly left-sided, with tendency to vertigo. Became rather somnolent.

On March 4th he became dizzy, his legs gave way, and he fell while walking in the street. A sensation "like a shock of wind," as he expressed it, seemed to start in the right foot and spread very rapidly over the right leg, arm, and side. The paresis seemed to come on gradually, as he felt less and less able to walk, and finally dropped, not unconscious but unable to walk.

March 9, 1890.—Admitted to St. Luke's Hospital, under Dr. George L. Peabody's care. Examination showed that the patient had a mitral murmur; no paralyses; no deviation of tongue; no anæsthesia. Pupils reacted to light. Knee-jerk absent. The other reflexes were present, the plantar rather exaggerated. There was a purulent discharge from the left ear, with perforation of the drum. His skin was dry, tongue coated with brown fur, but moist. Pulse, 80; temperature, normal. The patient was somnolent. About an hour after admission he began to have convulsive movements of the right side, beginning in the foot, was given a hypnotic, and slept. The next morning he was able to walk with a limp. After breakfast another convulsion of the right leg, lasting half an hour. There was some paresis of the leg and hyperæsthesia of the right side, passing away quickly. Also a slight transient aphasia. His chief complaint was of general weakness and the discharge from the ear.

The urine was acid. Specific gravity, 1·042. Sugar, thirty-two grains to the ounce. No albumin. No casts. The ear was frequently syringed with boric-acid solution, and he was given bichloride of mercury, gr. $\frac{1}{32}$ t. i. d., with diabetic diet. During the following week his urine increased in quantity from forty to eighty-six ounces, and the sugar diminished to twenty-six grains. There were several times each day attacks of numbness of the right arm and leg, with considerable loss of power. The patient could stand but not walk. He could not grasp with his right hand. There were no optic symptoms. During the attacks there was hesitation in speaking and difficulty in pronouncing some words. The mind was dull, but there was no loss of memory. The attacks lasted from a few seconds to five or ten minutes and went off as suddenly as they came on. There was a vague history of early syphilis, and he was given eight doses daily of iodide of potassium, forty grains each.

On March 14th convulsive movements of the right arm and hand were noticed, and to a much less degree of the right leg and foot. These lasted only a few seconds and were followed by a stupid condition. Aphasia followed each attack.

17th.—At least two attacks daily were associated with convulsive movements of the right hand and arm. Mouth open widely; eyes closed. On coming out of one attack he was unconscious that it had happened. Examined by Dr. M. A. Starr with Dr. Peabody, no retinal changes were present.

20th.—Up to this date he had been having three or more marked epileptic seizures daily, beginning with numbness of the right leg and arm, and succeded by severe spasmodic convulsions limited to these members. It now extended to the same side of the face. His temperature also rose to 101°, having previously been normal, or nearly so. Evidence of mastoid inflammation also developed rapidly, and in twenty-four hours a well-marked suppurative mastoiditis was found, and he was transferred to my care for surgical relief.

His urine still showed no albumin or casts, but sugar, twenty-four grains to the ounce. During the succeeding twenty-four hours six similar epileptic seizures occurred, wholly limited to the right side. He was seen by Dr. Dana, who noted also some anæsthesia, as well as diminished muscular power of the right side. It was thought possible there might be an extension of suppuration by perforation from the mastoid, causing pressure upon the portions of the brain indicated by the parts involved in the seizures—namely, the centers for the leg, arm and face, and for speech. Preparation was made to operate upon the mastoid, and, if indicated, to trephine also over the ascending frontal convolution.

March 21st.—The patient was etherized and the mastoid well excavated of all suppurative tissue. A piece of loose sequestrum was found within the bone. The bone was so far removed as to undermine the dura constituting the floor of the lateral sinus, and still further in a space the size of the finger nail of the roof of the petrous portion. Into these openings the director was passed between bone and dura mater for an inch in different directions, but no intracranial pus was found.

It was thought best to defer further operation.

After this the convulsive twitchings were slight, but recurred every half hour or less all the next day, lasting, however, only a minute. His tongue deviated to the right. His lips were drawn to the right. Between attacks he seemed fairly intelligent, but could not express himself. He would sometime repeat words suggested correctly after vain attempts to make himself understood.

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* Read before the New York Surgical Society, April 23, 1890.

On the second day after operation the convulsions were more violent though not so frequent, and his general sense was more blunted.

On the third day I felt that the indications were more than ever for irritation of the cortex of the suspected convolution. The wound was in perfect condition, yet the temperature rose on this day to 102°, pulse varying from 72 to 100 at different hours—on the whole, a disproportionately slow one. The convulsions were wholly localized and the aphasia more complete, suggesting a left-side lesion directly related to the left-ear condition.

On March 24th, therefore, I trephined with a one-inch trephine just in front of the lower end of the Rolandic fissure as mapped out for me by Dr. Dana. The dura and brain seemed normal but a little full. Arachnoid fluid normal. A small puncture was made in the pia and a director gently pressed into the presenting convolution for an inch in three directions. Neither suppuration nor tumor was found. The dura was therefore sutured with fine catgut and the wound closed.

The operation had no appreciable effect on the condition of things. The convulsions were repeated every twenty minutes as before, and on the following day became more general, both sides of the body and face participating. His aphasia grew more complete.

On the third day the convulsions abated in frequency; only one occurred in the night and eight in the day. These were general though more marked on the right. He seemed to understand everything that was said and done, but could not make himself understood.

On the fifth day the convulsions came hourly, were more severe and more general. He gave evidence of exhaustion from this cause. His pulse became weaker. Temperature rose to 105·5° just before death, and he died, after a few hours, of coma.

The autopsy was made ten hours after death by Dr. Thacher, and was watched with great interest by Dr. Peabody, Dr. Starr, Dr. Kinnicutt, Dr. Robinson, Dr. Bangs, and others, besides myself. The brain and membranes, as far as gross examination revealed, were in an absolutely normal condition.

No trace of pus was found anywhere, even in the temporal bone. The arteries at the base and throughout the brain were scrutinized and found apparently normal.

Many close sections were made in the region about the Rolandic fissure as well as elsewhere, and a more normal appearing brain it would be difficult to find. The site of puncturing was exactly in the hand and face convolutions, and no harm had come from the use of the director.

(The linear scar in the brain substance is here shown.)

Further examination of the body showed an abdominal adhesion matting together the pancreas, spleen, and transverse colon. The pancreas was atrophied to a fibrous relic about one quarter its normal bulk. No suppurative process could be detected. It was impossible to say whether this was a recent or long-standing lesion.

Further consideration of the history and revelations of the autopsy led to the conviction that the train of remarkably delusive symptoms resulted from the poisoning of his system through the diabetic poison. This suppurative mastoiditis was undoubtedly the determining cause of irritation of the *left* convolutions.

Bibliography.

A. *Reference Hand-book of the Med. Sciences.*

(Dr. Kinnicutt, *Med. Rec.*, New York, vol. xxiv, p. 221.)

1. Facial hemiplegia; the patient died in syncope with sudden hemiplegia of the body.
2. Landesburg mentions a case of paralysis of the abducens.
3. Dementia paralytica, Hamilton, *N. Y. Med. Journ.*, xl, 1–5.

Locomotor ataxia, tabes dorsalis, insanity, and hemiplegia, are all mentioned as occurring in conjunction with diabetes mellitus.

B. *Guy's Hospital Reports*, vol. xliv, 1886–1887, p. 189.

(Pavy, *On Clinical Aspect of Glycosuria. Brit. Med. Journ.*, 1885, ii, p. 1049.)

"Dr. Pavy states that nervous symptoms, especially spinal ones, are very apt to accompany diabetes. He has seen ataxia associated with it in a great many cases, the symptoms coming on either simultaneously or at different times. There may be pains in the limbs, a feeling of heaviness in the feet, darting or lightning pains, hyperæsthesia, deep-seated pain in the bones, and loss of knee-jerks."

Bouchard and Marie and Guignon, in an abstract in *Brit. Med. Journ.*, 1887, i, p. 236, direct special attention to the loss of knee-jerks.

Nervous symptoms occurred in one form or another in seventy-one out of one hundred and sixty-eight cases at Guy's.

A CASE OF REFLEX AMBLYOPIA
CURED BY
SECTION OF THE SUPRA-ORBITAL NERVE.

By JOHN DUNN, M. D.,
RICHMOND, VA.

The patient, a young man, aged nineteen, came under my observation the latter part of October, 1889. He complained of dimness of vision, which, he said, was getting gradually worse, and of a constant pain in both eyes.

In the winter of 1886 the patient, then aged sixteen, was struck in the right eye with a snow-ball. He did not, however, attribute his loss of sight to the blow, as it was some months afterward that the visual trouble began. The pain from the blow had been so severe that for a time nothing except morphine would give him any relief. In the spring of 1887 he suffered much from neuralgia in the neighborhood of both eyes. In June his eyesight began to fail him, though he was able to continue his studies until the following December. From this time until October, 1889, he was under treatment for his eyes, which continued to get steadily worse.

In October, 1889, the following was the condition of the eyes: A spasmodic winking of the lower lid of O. D. is very marked, occurring from twelve to fifteen times a minute. This twitching of the lid began soon after the eye was struck and had never entirely ceased; at times it occurs much more frequently than at others. A strong light, as that from an ophthalmoscope, increases the number of spasms per minute markedly, while "a cold wind will make that eye wink every second in the minute." There was no corresponding movement of the left lower lid. Both eyes show an irritable condition of the conjunctiva, which is in a state of active hyperæmia. A bright light or an attempt to use the accommodation for more than a very short time causes the eyes to fill with tears. Running from the outer margins of both corneæ to the external canthus of the eye were several small blood-vessels, so enlarged and full of blood that one could readily be led to seek for some irritating foreign body in the outer canthal region.

The cornea, aqueous, lens, and vitreous were perfectly clear. Iris normal. Pupil responded most delicately. The tension of both eyes was rather greater than normal, perhaps T + 1. The anterior chamber shallower than might be expected in a normal eye. The optic discs and retinæ were perfectly normal. Neither veins nor arteries were overfilled. Both eyes were painful at all times. The pain in the right eye had been constantly present for two years, though it had been much worse at some times than at others. So painful was this eye in damp or wet weather that the patient had long since learned to remain indoors "in bad weather." Cold wind also caused the eyes to pain and water. The pain in the right eye had made its appearance some months before that in the left.

The patient complained also of a gray cloud before both eyes, denser before O. D. This cloud made its appearance about a year ago and had been growing denser ever since. This cloud, which appears to be "always floating by," is, like the pain and spasmodic twitching of the right lower lid, subject to variations. At times, while it is scarcely distinguishable, it never entirely disappears, and its general increase in density from month to month is remarked by the patient. It is present before both eyes; denser before the right. In appearance "it is simply a floating gray cloud with its circumference denser than its center." When it first made its appearance, patient thought his glasses were soiled, and endeavored by wiping them to clear away the cloud. At dusk the patient's eyesight is very bad, and at night he can distinguish no one passing him.

The ball of O. D. is very sensitive to pressure, considerably more pain being caused, however, when the ball is pressed upon through the upper than when through the lower lid. O. S. is also sensitive to pressure, though less so than O. D.

Muscular equilibrium undisturbed. Examination for defects of the color sense omitted.

V., O. D. = $\frac{9}{200}$; O. S. = $\frac{18}{70}$. Glasses give no improvement. With both eyes patient can make out Jaeger 1, p. p. = 12 cm.; p. r. = 16 cm. With O. D., Jaeger 3, p. p. = 8 cm.; p. r. = 16 cm. With O. S., Jaeger 1, p. p. = 12 cm.; p. r. = 17 cm. To do this, however, the patient requires the strongest light, and must be allowed to read very slowly. Reading newspaper type for more than a few minutes at a time is impossible.

Under atropine, V. for O. D. = $\frac{9}{200}$; O. S. = $\frac{18}{100}$. Retinoscopy gives H. $\frac{3}{4}$ D., as measure of both eyes. No astigmatism. With + $\frac{3}{4}$ D., V. for O. D. remains $\frac{9}{200}$, while for O. S. it becomes $\frac{18}{70}$. No glass improves beyond this.

Tested with the perimeter, the field of vision for both eyes is found contracted—that for O. D. very much more than that for O. S. (*Vide* Chart 1.) The contraction is concentric.

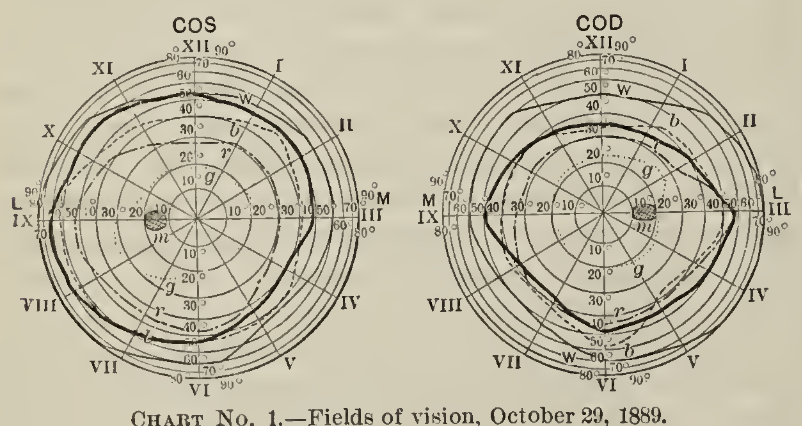

Chart No. 1.—Fields of vision, October 29, 1889.

The general health of the patient had always been good, though he suffered much from "sore throat and catarrh." Examination revealed an enlarged pharyngeal tonsil, superadded to a chronic laryngo-pharyngitis resembling much in appearance that found in people of rheumatic tendencies. In addition, there was a moderate hypertrophy of the middle turbinates anteriorly. No posterior turbinate enlargement. Teeth in excellent condition. His whole family, he said, had suffered much from failure of their eyesight, and patient was willing to attribute his loss of sight to an "inherited tendency." The patient says he had syphilis about two years ago. Unfortunately, the physician to whom he had applied when he had his "sores" was not in good standing, and had prescribed a course of patent medicines. From the patient's account of the symptoms, it was extremely doubtful whether he had ever had syphilis, of which there was in October, 1889, not the slightest trace.

The treatment for the eye affection had been very varied. Enucleation had been suggested as a possible resource after the involvement of the second eye.

This was the condition of affairs when the patient presented himself in October, 1889. My diagnosis after a consideration of the symptoms was glaucoma simplex, due to, perhaps, some reflex cause, for I had in my mind at the time Lennox Browne's report of a case of glaucoma cured by eradication of a nasal polyp. There were many symptoms of glaucoma lacking, and the diagnosis was unsatisfactory. To see if in any way syphilis—though no definite ocular lesion could be determined, or even suggested itself—were a factor in the disturbances, the patient was made to undergo for three weeks an active course of mercury and potash. During this time the pharyngeal tonsil was removed and the enlarged middle turbinates were reduced. The eye symptoms in no way improved. The patient then, at my suggestion, visited another oculist. "Tobacco" was suggested "as having something to do with the amblyopia," and a course of outdoor exercise and strychnine advised. Though tobacco amblyopia seemed far less probable in view of the symptoms than glaucoma simplex, in deference to the oculist's great reputation no objection was opposed to the treatment. The patient submitted, with the result that on February 7, 1890, vision for O. D. was $\frac{9}{200}$ and for O. S. $\frac{18}{70}$. Absolutely no improvement, while the range of accommodation for reading was considerably reduced. On April 12th the range of accommodation was in O. D. only 2 cm., while for O. S., Jaeger 1, it was also only 2 cm. (p. p., 16 cm.; p. r., 18 cm.). The patient complained greatly of insomnia, which, he said, had troubled him for some months. Examination with the perimeter shows that the fields of vision have changed but little since October. (*Vide* Chart 2.) The weather had been warm, and the twitching of the right lower lid had been consequently less frequent, while, with strong illumination, O. S. could read $\frac{18}{50}$. In passing my finger above the right eye, I noticed that each time it passed over the supra-orbital nerve there was a corresponding twitching of the right lower lid. This fact suggested many possibilities, and an immediate section of the supra-orbital nerve was advised. The patient agreed. The operation was done subcutaneously. The point of a small knife was forced to the bone, external to the nerve, in the supra-orbital notch, and the handle of the knife then depressed. I could feel that the nerve was cut entirely through. The bleeding amounted to nothing. A piece of adhesive plaster was the dressing.

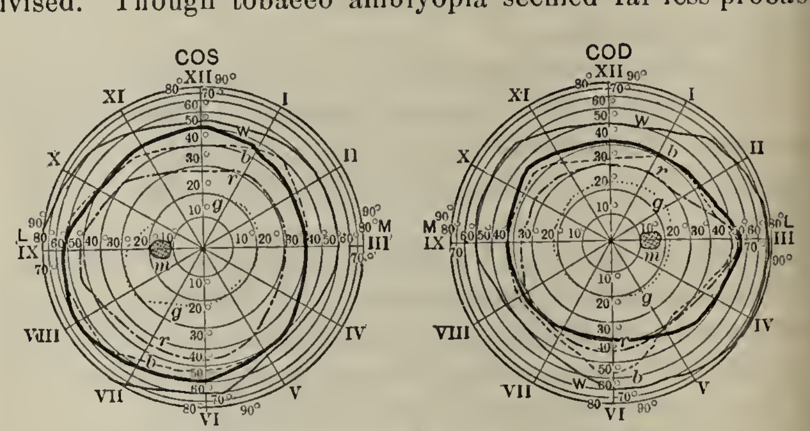

Chart No. 2.—Fields of vision, April 12, 1890.

Immediately after the section of the nerve the patient remarked: "For the first time in three years can I wink my right eye without pain." Pressure on the nerve no longer produces spasm of the lower lid.

April 15th.—Wound healed without trouble. Right side of the forehead painful as patient attempts to move skin on his forehead; spasmodic twitching of right lower lid has disappeared. Patient says he feels as if left eye had improved more than right.

V., O. D. = $\frac{12}{200}$; O. S. = $\frac{18}{40}$.

24th.—April 20th was a cold, damp day, and patient suffered much from pain in O. D.

V., O. D. = $\frac{16}{200}$, with + $\frac{3}{4}$ D. = $\frac{18}{200}$; O. S. = $\frac{18}{40}$, with + $\frac{3}{4}$ D., two letters in $\frac{18}{30}$.

Applied constant current; positive pole to back of neck, negative over course of supra-orbital nerve and over upper eyelid of O. D. The application was extremely painful, causing the eye to become bloodshot and to water profusely. The application lasted three minutes. The pain caused by it lasted thirty-six hours, most of which time patient spent in bed.

29th.—V., O. D. = $\frac{18}{100}$; O. S. = $\frac{18}{20}$.

Applied constant current again. Application caused little or no pain.

May 2d.—V., O. D. = $\frac{18}{40}$; O. S., $\frac{18}{15}$.

Field of vision of O. D. is still slightly contracted, although less than that of O. S. was originally. Field of O. S. has become normal. (*Vide* Chart No. 3.) Current again applied for five minutes.

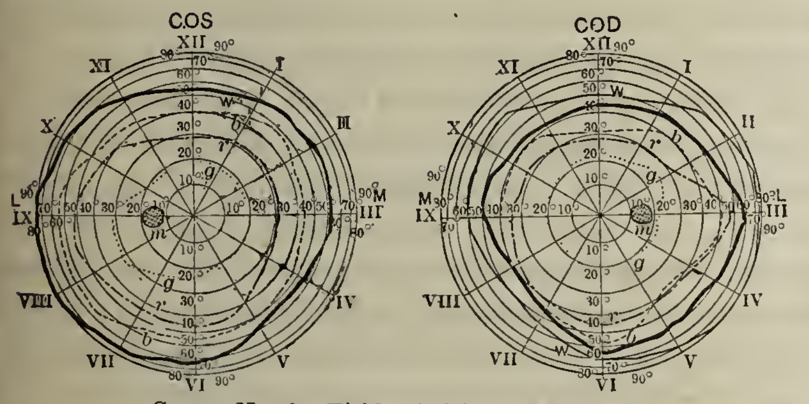

Chart No. 3.—Fields of vision, May 3, 1890.

8th.—V., O. D. = $\frac{18}{15}$; O. S. = $\frac{18}{15}$.

July 16th.—No return of any symptom of reflex trouble.

Thus, in less than four weeks after section of the supra-orbital nerve the vision of O. D. had increased from $\frac{9}{200}$ to $\frac{18}{15}$, while that of O. S. from $\frac{18}{50}$ to $\frac{18}{15}$. The pain has entirely disappeared from both eyes. Both fields of vision are normal. The cloud before the eyes was seen once or twice soon after the operation, but has now disappeared. There is now no longer a twitching of the right lower lid. The conjunctivæ have lost their hyperæmic condition, and the irritated appearance of the vessels running from the outer canthus to the cornea has disappeared. The patient has got his books out again, and, on May 7th, read two hours without fatigue to his eyes. The neuralgia has disappeared, and with it the patient's inability to sleep. In short, the cure has been perfect.

Remarks.—This case has been reported thus at length because of its completeness; because, as a case of reflex amblyopia, it leaves no doubt as to its origin; and, further, because it shows how perfect may be the return *ad integrum* of the functions of an organ which for years has been disabled through a reflex agency. Moreover, it adds one more to the many pleas that a careful search should always be made for a reflex cause in troubles which have no definite pathological lesion. Reference has been made to the treatment of the case other than the section of the supra-orbital nerve, because it is of interest in showing the uselessness of general remedies in reflex troubles whose source is a definite anatomical lesion. As in all reflex troubles, this case presents many points of interest. The pathogeny of the amblyopia? The case adds little to any of the hypotheses that have been formed to settle this question. The direct cause that kept up the reflex symptoms? It seems more than probable that the blow so injured the sheath of the supra-orbital nerve that an adhesion formed between the sheath and the adjacent tissues. This adhesion, then, could have become the source of continuous trouble, since each movement of the upper lid, as in winking, or each contraction of the skin over the forehead, as in frowning, would have dragged upon the nerve by means of the adhesion. Or continuous pressure may have been exerted upon the nerve through cicatricial contraction left as the result of a perineuritic inflammation set up by the blow. In either case the question arises whether the cure obtained through simple section of the nerve at the seat of adhesion or contraction will be permanent. The influence of wind and damp weather in increasing the pain in the eye seem to point rather to a subacute inflammation of the nerve itself. If so, then had the section of the nerve or the application of the electric current the greater share in procuring a cure which may be looked upon as permanent? The order in which the eye symptoms developed, the fact that vision did not begin to fail for six months after the blow was given, the gradual but sure increase in the symptoms, the almost complete abolition of the range of accommodation for small objects—these all furnish food for reflection, and seem in more than a vague way to point us to nerve exhaustion as the prime factor in the pathogeny of reflex troubles, nerve exhaustion called forth by continuous excessive energy due to a continuous point of irritation in a nerve filament closely allied to the organ in which the reflex symptoms show themselves. The question, too, whether, as a result of this blow, there would have been in course of time a real degeneration of the organ of sight comes up. At all events, after three years and a half have elapsed, during the whole of which time the reflex cause had been at work, the removal of the cause does away almost immediately with the effects.

CONGENITAL STENOSIS OF THE DUODENUM.

HÆMATEMESIS; DEATH ON THE FIFTH DAY; AUTOPSY.[*]

By J. H. EMERSON, M. D.

N. B., male, the fifth child of healthy parents, was born on April 24th after a normal and easy labor of about fifteen hours. Weight, eight pounds and a half; circulation perfect. Appeared well nourished and well developed in every respect. When about thirty-three hours old the child suddenly and without any apparent cause spat up or regurgitated about half an ounce or more of rather dark blood, partly mixed with mucus. This effort involved some choking, and was followed by some blueness and coldness of the extremities. The same thing was repeated four or five hours later, but with less effort and disturbance, and after this recurred at intervals and in varying but not large amount for eight or nine hours longer. The nurse reported that there had been a trace of a reddish stain in the mucus from the mouth since birth. The bowels had moved freely before the blood-spitting began—a dark, tarry stool. The child evinced no desire for food, and would make no effort to take the breast. Gave no sign of suffering except when raising the blood from the throat, which act was accompanied by some gagging, but hardly a vomiting effort. Some blood also escaped through the nostrils. No cough. No fever. No disturbance of respiration. Examination of the surface of the body and of the mouth and fauces revealed nothing abnormal. The attempt was made to give one drop of spirits of turpentine in water, also subsequently a little milk and water and some minute scraps of ice, but it is doubtful if anything was swallowed at this time, and these attempts only led to increased regurgitation and bleeding. Another stool at this time contained only meconium; no trace of altered blood. When the child was about forty-six hours old Dr. A. Jacobi saw him in consultation, and made a thorough examination without being able to satisfy himself as to the source of the hæmorrhage, although we concluded that the symptoms pointed to its coming from somewhere low in the pharynx. A weak solution of alum and potassium chlorate was prescribed, to be applied in the pharynx hourly with a camel's-hair brush. From about this time no more red blood was ejected, although there was a slight brownish stain to the mucus from the mouth. During the succeeding thirty-six hours the child received small quantities of milk and water, with a few drops of brandy, also some breast milk from a spoon, but would not nurse, although he swallowed better. At the expiration of this time —viz., when about three days and a half old—he vomited a large quantity of dark-brown watery and grumous fluid, which also poured through the nostrils, and a similar discharge took place now and then in greater or less quantity, and not always with an effort of vomiting, until his death. Some of this material, scraped from the napkin and examined with the microscope, appeared to be of an oily character, contained some colostrum corpuscles, and also altered blood-corpuscles. The discharges from the bowels had the same character as the earlier ones, and contained no trace of sweet-oil, of which a teaspoonful was twice administered by the mouth. The last evacuation, only about three hours before death, was stained with bile. The child died when four days and ten hours old, emaciated, but not extremely exsanguinated.

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[*] Read before the Section in Pædiatrics of the New York Academy of Medicine, May 8, 1890.

The following is the report of the autopsy by Dr. W. B. James:

N. B., aged four days, male, died on April 28th, P. M.

Autopsy, April 29, 1890, 1.30 P. M.

Body well nourished. Length, 48 ctm.

Heart: Foramen ovale patent, 0·1 ctm.; otherwise normal.

Lungs normal.

Peritonæum normal.

Stomach is markedly dilated. From cardiac orifice to pylorus, measured on greater curvature, is 17 ctm. Pyloric orifice dilated, 2 ctm. diameter. Duodenum markedly distended, 3 ctm. in diameter, the distention reaching to a point immediately above the orifice of the common bile duct, at this point the lumen of the duodenum terminating abruptly. Fluid can not be forced below this point from the stomach, nor can air be forced from the intestine upward into the stomach.

A probe, medium-sized, can be passed through the constriction, which appears to be not complete.

Stomach contains a large amount of brownish-black, fluid, somewhat grumous material.

Small intestine, below the above-mentioned constriction, normal.

Large intestines normal.

Œsophagus: Immediately above cardiac orifice is a firm, dark-red, oblong thrombus, 2·5 ctm. in length, firmly attached to posterior wall of œsophagus.

Upper part of œsophagus and pharynx normal. Liver normal. Kidneys normal. Bladder normal.

Microscopic examination of the above-mentioned thrombus, with œsophagus wall, showed erosion of the mucous membrane immediately beneath the thrombus. The exact nature of the process giving rise to the bleeding could not be made out.

It should also be noted that at the autopsy the intestine below the constriction in the duodenum was found almost entirely empty, containing but a very little dark meconium in the lower portion, while its upper part was stained yellow with bile for a few inches.

I would call your attention to a few points of special interest.

Both the abnormal conditions here presented are of very rare occurrence. As to the lesion of the œsophagus, I have not succeeded in finding an account of any such condition, hæmorrhage from that canal being attributable either to traumatism, to heterologous deposits, or to antecedent disease, either constitutional or local, none of which were present in this case. The one most nearly resembling it is reported by Henoch (*Lectures on Children's Diseases*, vol. i, transl. from 4th German edition by John Thomson, London, New Sydenham Society, 1889, p. 68). He says: "The following case stands alone. A child of five days, admitted October 1, 1881. Since the third day of life, repeated vomiting of blood and black bloody stools. The child sickly, shriveled, anæmic; extremities cold; anal aperture covered with bloody fæces. Pulse imperceptible; temperature, 87·8° F. Takes no nourishment. Death that evening. Post-mortem: General anæmia; spleen normal. Immediately over the cardia, a ring of ulceration, an inch and five eighths long, surrounding the whole œsophagus. The submucosa remained free; it was swollen and infiltrated with grayish-white matter. The ulcer sharply defined above; otherwise everything normal. We were unable to throw any light upon the origin and nature of this œsophageal ulcer."

The occlusion of the duodenum was not structurally absolute, although the canal was impervious to both air and fluid. Its condition resembled a gathering together of all the tissues of the gut at that point, much as a bag is drawn together by a string. In regard to the pylorus, Ziegler says (*Text-book of Pathological Anatomy and Pathogenesis*, transl. by Donald MacAlister, New York, 1887, p. 617): "Complete atresia of the pylorus is very rare, but stenosis or abnormal contraction is more frequent (R. Maier)." Nor does the state of things here seem identical with that referred to by Widerhofer (Gerhardt, *Kinderkrankheiten*, vol. iv, part 2, p. 353), where he says that the lumen of the stomach or intestine may be narrowed or obliterated by partitions, the origin of which is not well understood.

Another question which naturally arises is whether there was any causative relation between the hæmorrhage and the coexisting stenosis of the duodenum. In other words, is it probable that the effort of vomiting caused a lesion of the mucous membrane of the œsophagus, and so hæmorrhage, in analogy with the case of rupture of the œsophagus of the Dutch admiral, as reported by Boerhaave? The history of the case would negative this theory, for the vomiting was never violent, the raising of red blood was the earliest symptom noted, and it took place before any kind of food or drink had been taken into the stomach.

With reference to diagnosis, it may be said that the non-appearance of blood in the evacuations from the bowels, while it distinguished this case from those of melæna, might have given a hint of the possible existence of an occlusion of some part of the alimentary canal, especially when coupled with the fact that the sweet-oil swallowed also failed to show itself in the dejecta.

NOTE ON CHLORALAMIDE.

By WARREN B. CHAPIN, A. M., M. D.

The cases in which I have used chloralamide have been mostly those of insomnia of a very persistent character, in some of which all other hypnotics had failed. Although my experience with the drug has been confined mostly to one class of cases—those of insomnia depending on some nervous affection—I have seen enough of its action to convince me that not only does it fail to possess all the virtues attributed to it, but, owing to its uncertain action and the many unpleasant symptoms which it produces, it is inferior to most of the other new hypnotics.

It is maintained that chloralamide has no effect on the respiration or circulation, and can be given in cardiac cases almost with impunity. In doses under three grammes I believe chloralamide to be harmless; but when given in larger doses it will produce effects on the circulatory and respiratory systems that are ominous of what may happen if it is not used with caution. In one instance, two hours after having administered a dose of three grammes to a robust patient, I was sent for by the family, as the patient was "acting queerly." I found her sleeping very heavily, could be aroused with difficulty, respirations labored and 124, and with a pulse of 105. In larger doses I have seen much more pronounced effects, and I would certainly be very cautious in giving this drug in cardiac cases.

Its action as a hypnotic is very uncertain, taking effect in some cases in a very few minutes, while in others its action is delayed for several hours, or else has no effect at all. Sulphonal, to which it is claimed to be superior, is uncertain in its action, but can usually be relied on in certain cases, while chloralamide can not be depended upon to act twice alike on the same patient. In one patient it produced no effect except headache, nausea and vomiting, and great restlessness for eight hours, when the patient fell into a heavy sleep which lasted for twelve hours. On the following day at 5 P. M. I gave the patient, under like conditions, the same dose as on the preceding day; in half an hour she was asleep, and slept for only two hours. Repeated doses had no effect, but a moderate dose of chloral was successful. In some cases it appears to be accumulative, especially if given in its undissolved form, and I have known a second dose to have such a depressing effect on the heart as to render stimulants necessary. If four grammes fail to produce sleep, it is useless to repeat the dose.

Although in some cases it causes a refreshing sleep, with no unpleasant after-effects, yet just as often does it cause headache, which is sometimes very distressing, nausea, great restlessness, or depression. I find these unpleasant symptoms almost invariably occur when its administration fails to produce sleep. A feeling of exhilaration lasting for an hour or two often occurs after taking this drug. A patient told me it always made her feel as though she had taken a pint of champagne; afterward she would become restless, then depressed, but it would never make her sleep.

In other hands chloralamide may prove all that is claimed for it, but after giving it a fair trial I have ceased to use it in my practice.

114 West One Hundred and Fourth Street.

A PECULIAR GROWTH OF HAIR ON THE FACE.

By RICHARD B. FAULKNER, M. D.,
ALLEGHENY, PA.

Unable to find another instance of the growth of hair from a cicatrix, the following is therefore presented as one of interest:

Miss L., aged twenty, received a burn on the left cheek from a cooking-stove when a child. The skin was blistered, of course, by the burning. The scar which resulted is oval in appearance, half an inch wide by an inch and a half in length, very perceptibly elevated, and of a dense fibrous consistence throughout the entire thickness of the derma.

Burns commonly destroy the hair follicles; but in this case a growth of hair appeared upon the scar. A brown pigmentary deposit also occurred. Most of the hair was jet black, and much of it an inch and more in length. The lady is a brunette, a school-teacher. At least twelve hundred hairs were growing from the scar when she applied to me. She is not of a hairy nature.

I removed the entire growth of hair with the electric needle. There is no sign of its reappearance. The pigmentary deposit is becoming fainter; the cartilage-like hardness is giving place to a softer feeling. Much down still covers the cicatrix, but I have consoled the lady with the statement that when the hardness is removed and the pigment entirely gone, the unusual quantity of down will likely cease to annoy her.

Case second is that of a lady sixty-five years of age, addicted to the use of a caustic depilatory for twenty years, which had so irritated the skin as to cause trifacial neuralgia. The skin had become so irritable that the application of water was almost unendurable.

She had a beard and mustache of rather manly proportions. The hair shafts were very thick, and the roots long and strong. The depilatory seemed to me to be a wonderful stimulant in producing the strong, healthy roots. I immediately stopped the use of the depilatory, and ordered oxide-of-zinc ointment every night and morning. I removed from her face *four thousand hairs*. They show no tendency to return. The neuralgia is cured by the measures noted.

THE
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THE TENTH INTERNATIONAL MEDICAL CONGRESS.

From the dispatches thus far received from Berlin it is safe to infer that the Congress is sitting under conditions that have never been surpassed as regards satisfactory work. The attendance is very large, notably large from North America, and the organization of the Congress at large and of the several sections is such as to impart the utmost weight to the proceedings. The latter fact is due to the good sense displayed by the organizing committee; the former has doubtless been decidedly promoted by the plan adopted in most countries of establishing a national committee (*Landes-Comité*). The United States and Canada joined in the formation of such a committee consisting of Dr. Abraham Jacobi (chairman), Dr. William H. Draper, and Dr. William T. Lusk, of New York; Dr. William Pepper, of Philadelphia; Dr. Reginald H. Fitz, of Boston; Dr. William Osler, of Baltimore; Dr. Samuel C. Busey, of Washington; Dr. F. Peyre Porcher, of Charleston; Dr. Henry Hun, of Albany; and Dr. J. Stewart, of Montreal. The United Kingdom had a committee consisting of three sections, sitting respectively in London, Edinburgh, and Dublin, presided over by Sir James Paget, Dr. Grainger Stewart, and Sir William Stokes. The other countries that adopted this plan, together with the chairmen of the committees, as stated in a recent issue of the *Prager medicinische Wochenschrift*, are: Belgium, Dr. Thiry, of Brussels; Denmark, Dr. C. Lange, of Copenhagen; Italy, Dr. Mosso, of Turin; Mexico, Dr. Lavista, of Mexico; the Netherlands, Dr. B. J. Stokvis, of Amsterdam; Norway, Dr. S. Laache, of Christiania; Austria-Hungary, Dr. Theodore Meynert, of Vienna; Russia, Dr. W. Paschutin, of St. Petersburg; Sweden, Dr. Holmgren, of Upsala; Switzerland, Dr. Kocher, of Bern; and Spain, Dr. Basilio San Martin, of Madrid.

It will be noted that France does not figure in this list. At one time it looked as if the animosity engendered by the Franco-Prussian War would lead the French to hold aloof from the Congress almost altogether, and more recently certain bygone expressions used by Virchow, the president of the Congress, were brought forward by men who might have been engaged in better business, to give our French brethren the impression that they would not be welcome at Berlin; but the best of the French medical journals have most commendably deprecated and sought to counteract this mischievous course, and Virchow has himself explained that one of the passages quoted from his writings ought not to be irritating when taken with the context. This being the case, there seems reason to expect that the final reports will show that many of the physicians of France have entered frankly into the work of the Congress.

In addition to the good accomplished by the national committees mentioned, we must allude to the aid that has undoubtedly been rendered to visitors unaccustomed to German ways by a committee of foreign physicians sojourning in Germany for purposes of study. Moreover, the comfort of lady visitors has doubtless been highly promoted by a committee consisting of Berlin physicians' wives. The number of sections has been increased from eighteen to twenty by the establishment of a Section in Orthopædic Surgery and a Section in Railway Hygiene. All things considered, the Berlin Congress seems likely to go on record as in no wise behind previous meetings, whether for the value of the work done or for the good feeling manifested by those engaged in it.

THE ÆTIOLOGICAL CLASSIFICATION OF MENTAL DISEASES.

In the July number of the *American Journal of Insanity* there is an interesting article, entitled Is Puerperal Insanity a Distinct Clinical Form? by Dr. W. L. Worcester, of the State Lunatic Asylum at Little Rock, Arkansas. The question under discussion by the author is as to whether or not puerperal insanity presents a clinical picture by which, without a knowledge of the history of the case, it can be distinguished from insanity unconnected with childbearing. He gives the histories of eight cases presenting a great variety of symptoms, such as excitement and depression, delusions, illusions, and hallucinations, suicidal and violent impulses, mental confusion, and catalepsy; but it is not clear to him that there was any one symptom common to all the cases, although mental confusion in greater or lesser degree was present in most of them and perhaps in all those reported, for he calls to mind an instance that occurred under his observation in the Michigan Asylum in which the patient seemed very clear-headed, and "certainly manifested great ingenuity and judgment of a certain sort in mischief."

Assuming a maniacal onset and mental confusion as invariable characteristics of puerperal insanity, instead of being merely its most usual manifestations, would that, Dr. Worcester asks, be sufficient to warrant its separation as a distinct disease? His own observations would lead him to answer this question in the negative, for the reason that similar cases are not at all uncommon in men and in non-puerperal women. He has treated a number of patients, both male and female, whose symptoms, so far as he has been able to judge, resembled those of the cases of puerperal insanity recorded in his article quite as much as they resembled those of the others; and their cases, he thinks, apart from ætiological considerations, were as much entitled to be classed with the puerperal cases as the latter were to be classed together. Finally, he has not been able to discover anything in the symptoms, whether considered separately or collectively, that would enable him to say with confidence, in the absence of a history of the case or of physical evidences of recent confinement, that the case of a given patient was one of puerperal insanity.

By implication Dr. Worcester's article tells against the utility of the ætiological classification of mental diseases in general, especially those imputed to masturbation and to the menopause. Not a few, he remarks, are skeptical as to the value of any system of classification, but unsystematized knowledge, he goes on to say, is a constant irritation to the scientific mind and a hindrance to progress, and probably the worst classification that was ever devised is better than none at all.

MINOR PARAGRAPHS.

THE ELECTRICAL EXECUTION.

On Wednesday, the 6th inst., the first judicial execution by electricity took place in Auburn Prison. The procedure resulted in the death of the criminal, but that, so far as we are aware, is the result of the method heretofore in use, and, judging from the press accounts, we see no reason why the new plan should be preferred to the time-honored hanging. The current is said to have been applied two or three times, but probably the repetition was unnecessary. Undoubtedly, as is alleged, the man's consciousness was abolished instantly, and the subsequent twitchings and respiratory efforts were in no wise manifestations of suffering; but the same may be said of a well-conducted execution by hanging. As for the element of sensationalism, it certainly was not avoided in this case. That the method of execution was a merciful one is hardly credible, for it is not the death itself, but the elaborate preparation for it that must be agonizing. Public opinion, we think, will hardly permit another criminal to be executed in this manner.

FOLLICULAR DERMATITIS IN COTTON-SPINNERS.

Dr. H. Leloir, of Lille, has observed a form of follicular and circumfollicular inflammation to be very frequent in male cotton-spinners, and has contributed an account of his observations to the *Annales de dermatologie et de syphiligraphie*. It appears from an abstract of the article given in the *Deutsche Medizinal-Zeitung* that the affection is confined chiefly to the front of the thigh, and is attributed to the action of the highly irritating mineral oils used in freeing the cotton fiber from grease. The workmen wipe their greasy hands on their trousers, which soon become saturated with the oil. The trouble may be prevented by using special trousers while at work and having them thoroughly cleansed at frequent intervals.

MINERS' NYSTAGMUS AND THE SAFETY-LAMP.

Attention having lately been called in the *Engineer* to a belief prevalent among miners to the effect that the safety-lamp is injurious to the eyes, the *British Medical Journal* remarks that nystagmus is the only affection of the eyes to which miners are specially liable, and shows that miners' nystagmus is not caused by the safety-lamp, but by the oblique upward direction in which the miner is obliged to hold his eyes as he lies on his side in the operation known as "holing," *i. e.*, undermining a block of coal. Nystagmus occurs only in mines where "holing" is practiced, and there it is observed whether the safety-lamp is used or not.

SECRECY IN LYING-IN HOSPITALS.

Last week we expressed the hope of seeing institutions established here for enabling women pregnant out of wedlock to be assured of decent support and secrecy until they were relieved of their embarrassment by the birth of a full-time child and recovery from the disabilities of the lying-in period. This we said in the interest of the restriction of criminal abortion. In the course of an essay on the proper measures for remedying the depopulation of France, an abstract of which appears in a recent number of the *Union médicale*, M. Lagneau advocates the establishment of such institutions, and alludes to their existence in Vienna. The officers and employees are sworn to secrecy, and there a woman may be delivered and leave her child behind her when she is ready to be discharged, without her identity being made known.

THE TERM "HEART-FAILURE."

In the *Medical News* Dr. Frank W. Thomas, of Germantown, Pa., relates a case of death intra partum after a rather copious uterine hæmorrhage, which, however, can not have been the cause of death, for reasons given. Only trifling lesions were found post mortem, and the author infers that death was owing simply to failure of the heart's action. In spite, therefore, of the fact that, of late, "registry bureaus, coroners' clerks, and closet pathologists" have refused to accept "heart-failure" as a cause of death, he argues in favor of the term as expressive of what really takes place in certain cases.

EARLY MATERNITY.

Dr. Barton Cooke Hirst, professor of obstetrics in the University of Pennsylvania, contributes a short article to the August number of the *University Medical Magazine* which goes far to show that, from the point of view of the mother's health, precocious maternity does not involve the evils that are usually ascribed to it. He gives brief notes of the cases of twenty girls who were delivered at ages varying from fourteen to sixteen years in the Maternity Hospital, four of them under his own observation. In each of the four cases under his own care the labor was easy and uncomplicated, the infant was well developed, and the mother's supply of milk was ample; and he infers from the absence of any record to the contrary that the sixteen others were normal also.

BROMOFORM IN WHOOPING-COUGH.

The *Lancet* cites the experience of Dr. Hugo Löwenthal, of Berlin, in the treatment of whooping-cough with bromoform in doses of from two to five drops three or four times a day. The dose is simply dropped into a teaspoonful of water, in which it floats in the form of a bead. Generally an amelioration of all the symptoms was produced promptly. In a very few cases sleepiness and lassitude were produced, and in one instance a semi-comatose state was the result, but this yielded readily to subcutaneous injections of ether, and, after the resolution of an intercurrent pneumonia, the use of bromoform was resumed.

A FRENCH STUDENT ON GERMAN STUDENTS.

A French student's impressions of German university life are given in brief in the *Lyon médical*. One reaches Germany, he says, with the idea that the studies there are very hard, and that the German students do more work than the French students; but one presently dismisses this idea, and gets the notion that the German students hardly work at all. On further acquaintance with them, however, it appears that in a German university, as in any other, there are those who work little and those who work much, the former masking the latter because more is seen of them.

THE INDORSEMENT OF FOREIGN DIPLOMAS.

We were in error in our answer to correspondent No. 327 in last week's issue. The new law went into effect on the 24th of June, and by its provisions foreign diplomas held by persons not previously licensed in the State of New York must be indorsed by the Board of Regents of the University, on the recommendation of a legally constituted board of examiners.

THE PRIMARY SYNCOPE OF CHLOROFORM ANÆSTHESIA.

According to an abstract of a recent discussion of the dangers of chloroform anæsthetization, before the French Academy of Medicine, published in the *Province médicale*, M. A. Guérin imputed the syncope that sometimes proves fatal early in the administration of the anæsthetic to the irritant action of its vapor on the pituitary nerves. To prevent it, he recommended forcible closure of the nostrils so that the patient would breathe through the mouth only.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 5, 1890:

DISEASES.	Week ending July 29.		Week ending Aug. 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	34	8	35	7
Scarlet fever	28	6	49	6
Cerebro-spinal meningitis	5	4	6	5
Measles	156	8	171	13
Diphtheria	75	31	69	22
Varicella	3	0	0	0
Leprosy	1	0	0	0

The Medical Society of Virginia will hold its twenty-first annual meeting at Rockbridge Alum Springs, beginning on September 2d. An address to the public and the profession will be given by Dr. John S. Apperson, of Marion. On the morning of the second day the president, Dr. Oscar Wiley, will deliver his annual address.

Immediately after the president's address and after its recommendations have been disposed of, the subject for general discussion—The Treatment of Summer Diarrhœa of Children—will be called. The discussion will be opened by a paper by the appointed leader, Dr. C. T. Lewis, of Clifton Forge. Dr. John N. Upshur, of Richmond, will follow with a paper having the same title.

Reports on advances in the eight departments of the medical sciences will be called for in the following order, and continued as the order of business through Thursday until completed: Anatomy and physiology, by Dr. H. H. Levy, of Richmond. Chemistry, pharmacy, materia medica, and therapeutics, by Dr. Henry V. Gray, of Roanoke. Obstetrics and diseases of women and children, by honorary fellow Dr. J. Edgar Chancellor, of the University of Virginia. In this section the following paper will be read: What class of cases of pelvic disease require operation? by Dr. I. S. Stone, of Lincoln. Practice of medicine, by Dr. W. H. Bramblett, of Pulaski City. In this section the following paper will be read: Suppurative diseases of the kidneys—their diagnosis and treatment, by Dr. Edward McGuire, of Richmond. Surgery, by Dr. William L. Robinson, of Danville, who will limit his report to diseases and injuries of the intestines—their surgical treatment, with pathological specimens from experimental work. In this section the following papers will be read: Permanent drainage of the bladder by means of a special cannula introduced above the pubes, by Dr. G. B. Johnston, of Richmond; the present position of abdominal surgery in America, by Dr. Joseph Price, of Philadelphia; the value of early exploratory incision as an aid in the diagnosis of surgical diseases of the abdominal cavity, by Dr. Edward Ricketts, of Cincinnati; subject not definitely stated, by honorary fellow Dr. Hunter McGuire, of Richmond; hip-joint disease, with description of an original splint therefor, by invited guest, and delegate from the New York State Medical Society, Dr. A. M. Phelps, of New York; treatment of appendicitis, by Dr. Joseph Hoffman, of Philadelphia. Ophthalmology, otology, and laryngology, by Dr. Robert L. Randolph, of Baltimore. In this section the following papers will be read: Importance of nasal surgery and nasal therapeutics in the treatment of aural catarrh, by Dr. Joseph A. White, of Richmond; a plea for early operation in cataract and strabismus in children, by Dr. Charles M. Shields, of Richmond; boils in the ear, by Dr. John Herbert Claiborne, Jr., of New York; the modern treatment of strabismus, by Dr. Alexander Duane, of Norfolk; title not definitely decided, by Dr. Laurence Turnbull, of Philadelphia; relations of refractive errors and muscular defects in asthenopia, ocular headache, etc., by Dr. Joseph A. White, of Richmond. Neurology and psychology, Dr. M. D. Hoge, Jr., of Richmond. Hygiene and public health, by Dr. I. R. Godwin, of Fincastle.

The American Dermatological Association will hold its fourteenth annual meeting at Richfield Springs, N. Y., on the 2d, 3d, and 4th of September, under the presidency of Dr. Prince A. Morrow, of New York. The programme includes an address by the president; Observations on Prurigo, Clinical and Pathological, by Dr. R. W. Taylor; Prurigo in the Negro, by Dr. R. B. Morrison; A Clinical Study of Pruritus Hiemalis, by Dr. W. T. Corlett; A Study on Pruritus, by Dr. E. B. Bronson; Note relative to a Case probably of Cancer *en cuirasse*, by Dr. J. N. Hyde; A Case of Atrophia Maculosa et Striata following Typhoid Fever, by Dr. F. J. Shepherd; Electrolysis in the Treatment of Lupus Vulgaris, by Dr. G. T. Jackson; Immigrant Dermatoses, by Dr. J. C. White; Notes on some Rare Cases, by Dr. G. H. Fox; Cases of Cutaneous Tuberculosis, with Histological Studies, by Dr. J. T. Bowen; Cases from the Hopkins Hospital Clinics, by Dr. R. B. Morrison; Plica, by Dr. H. W. Stelwagon; The Treatment of Erysipelas, by Dr. C. W. Allen; Remarks on the Treatment of Dermatitis Herpetiformis, by Dr. L. A. Duhring; The Treatment of Ringworm and Favus of the Scalp, by Dr. H. W. Stelwagon; Notes on Pilocarpine in Dermatology, by Dr. H. G. Klotz; and A Report on Aristol, by Dr. C. W. Allen.

An Honorary Degree.—The *Journal of the American Medical Association* announces that Fort Wayne College has conferred the honorary degree of LL. D. on Dr. W. W. Dawson, of Cincinnati.

The late Dr. William Brodie, one of the best-known physicians of Detroit, died on the 30th of July, at the age of sixty-seven. The deceased was a native of England, and a graduate of the College of Physicians and Surgeons, New York, of the class of 1850.

The Death of Professor Arnold.—The *Prager medicinische Wochenschrift* announces that Dr. Friedrich Arnold, emeritus professor of anatomy in the University of Heidelberg, died recently in the eighty-eighth year of his age.

The Death of an Aged Physician.—Dr. Isidore Labatut, who died recently in New Orleans, is said to have been the oldest physician in the United States. He was born in April, 1793.

The Antiseptic Treatment of Typhoid Fever.—"According to Dr. Petresco, who has been employing bisulphide of carbon in the treatment of typhoid fever, the difference in the mortality of cases treated in this way from that of cases treated according to more usually recognized systems is very considerable. The mixture prescribed was of the strength of two per cent., the vehicle being mint water. Of this mixture from three to four ounces were ordered daily. The mortality of typhoid in Bucharest is generally from twenty-five to thirty-eight per cent., but under the bisulphide-of-carbon treatment Dr. Petresco lost only ten per cent. of his cases. Even more remarkable were his results with β-naphthol, of which from forty-five to sixty grains were given *per diem*. Under this treatment he lost only four per cent. of the cases. Sometimes wet sheet packing was combined with the internal medication, sometimes not. He states that not only was the mortality diminished under bisulphide of carbon or β-naphthol, but that the whole course of the disease was rendered milder, and there was a remarkable immunity from serious complications."—*Lancet.*

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 27 to August 2, 1890:*

Price, Curtis E., Captain and Assistant Surgeon, is, with the approval of the Acting Secretary of War, granted leave of absence for ten days. Par. 3, S. O. 175, A. G. O., Washington, D. C., July 29, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 2, 1890:*

Blackwood, N. J., Assistant Surgeon. Ordered to duty in the Bureau of Medicine and Surgery.

Wales, P. S., Medical Director. Ordered to duty in charge of the Museum of Hygiene.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending July 26, 1890:*

Bailhache, P. H., Surgeon. Granted leave of absence for seven days. July 26, 1890.

Hutton, W. H. H., Surgeon. To proceed to Chicago, Ill., on special duty. July 24, 1890.

Godfrey, John, Surgeon. Granted leave of absence for thirty days. July 21, 1890.

Peckham, C. T., Passed Assistant Surgeon. When relieved at Memphis, Tenn., to proceed to St. Louis, Mo., and assume command of the Service. July 9, 1890.

Devan, S. C., Passed Assistant Surgeon. Granted leave of absence for twenty-five days. July 15, 1890.

Kalloch, P. C., Passed Assistant Surgeon. Orders of July 5th, to St. Louis, Mo., revoked. July 8, 1890.

Williams, L. L., Passed Assistant Surgeon. Relieved from duty at Baltimore, Md., and to assume command of the Service at Memphis, Tenn. July 8, 1890.

Perry, T. B., Assistant Surgeon. To proceed to Baltimore, Md., for temporary duty. July 17, 1890.

Stoner, J. B., Assistant Surgeon. Granted leave of absence for thirty days. July 21, 1890.

Hussey, S. H., Assistant Surgeon. To proceed to Pittsburgh, Pa., for temporary duty. July 18, 1890.

Young, G. B., Assistant Surgeon. Granted leave of absence for fifteen days on account of sickness. July 12, 1890.

Stimpson, W. G., Assistant Surgeon. To proceed to Buffalo, N. Y., for temporary duty. July 12, 1890.

Houghton, E. R., Assistant Surgeon. To report to the medical officer in command, New York Marine Hospital, for temporary duty. July 14, 1890.

Promotion.

Magruder, G. M., Passed Assistant Surgeon, to rank as such from July 12, 1890.

Appointments.

Houghton, E. R., Assistant Surgeon, to rank as such from July 12, 1890.

Benedict, A. L., Assistant Surgeon, to rank as such from July 24, 1890.

Letters to the Editor.

THE PIN-WIRING TREATMENT OF FRACTURE OF THE PATELLA.

Hillary Place, Leeds, England, *July 19, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue of June 21st I notice a letter by Dr. Frank S. Low, in which he advocates the treatment of simple fracture of the patella by wiring by means of pins placed above the upper fragment and below the lower, both being outside the joint.

I have already not only advocated but practiced this method of treatment on several occasions, and had the honor of showing one of my cases before the London Clinical Society in 1889.

A full account of the method of procedure will be found in the Clinical Society's Transactions.

A. W. Mayo Robson.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of May 22, 1890.

Dr. R. A. Murray in the Chair.

Artificial Prolapse of the Uterus; its Risks.—Dr. H. C. Coe read a paper with this title. He thought that artificial prolapse of the uterus was only brought about either for the purpose of making a thorough examination or of facilitating operative procedures on this organ. Judging from the amount of literature on this subject in the foreign journals and publications, it would seem that this practice was indulged in to a much greater extent there than in this country, where it had now become almost obsolete. That it had been productive of considerable harm there could be no question. Dragging these parts out of all anatomical relations, even if there was no disease present, had of itself been the cause of much trouble. Where there was disease around the uterus the procedure was decidedly unsafe. While this method had been used as a routine in the aid to diagnosis and to render more easy operations upon the cervix, the speaker thought that it showed a lack of skill on the part of the diagnostician and operator to have to resort to such practice, and that cures were really very rare where such a method was necessary. The dangers to be apprehended from the procedure were numerous. The tissues were apt to be overstretched even if in a normal condition. Again, there was danger of straining the already relaxed tissues. Rupture of the tubes and ovaries was an accident to be looked for, and also the setting up of peri-oophoritis by dragging on the broad ligaments. Any of these complications were liable to come on after artificial prolapse. The writer did not operate upon an immovable uterus with it in the normal position, and would under no consideration drag it down at such a time. The writer had seen several cases where, with the patients under anæsthesia, the uterus was found to be freely movable, and yet accidents had resulted after this practice. The skilled operator ought not to find it necessary to pull down the uterus, but merely to steady it in the normal position for any of his manipulations.

Dr. H. T. Hanks agreed with the writer of the paper as to the question of danger of such procedures, but said that when it was necessary he resorted to the method. He had been much impressed with the dangers that patients were exposed to in the routine of clinic examinations, as they were frequently found to be much worse on the days following such visits.

Dr. H. J. Boldt had formerly resorted to artificial prolapse in every case that came to his clinic. He was quite sure that he had had frequent trouble following such examinations, and, as he had gained nothing in diagnosis by this means, he had now discarded the practice. It was his custom, when making a thorough examination, to place the patient under an anæsthetic and to examine the parts with them as nearly in the normal position as possible, using the utmost antiseptic precautions.

Dr. A. P. Dudley had laid down two cardinal rules from which he never deviated. Those were, first, that he always used every care in his antisepsis, and, secondly, that he never made traction on the uterus when there was any existing tenderness. He thought that in the examination of fleshy women the bimanual method did not give good results, but that in these cases a finger in the rectum and another in the vagina was more satisfactory. He was also quite sure that many cases of acute trouble had followed artificial prolapse.

Dr. McLean heartily indorsed the sentiments expressed by the writer of the paper and the gentlemen who had preceded him. He did not think that as a routine this method was much followed in this country simply as an aid to diagnosis, but that it was confined to the operation of trachelorrhaphy.

Dr. G. M. Edebohls said that he had had no experience with this method, but did not think it impossible that the evil results might be due to some other cause than traction on the uterus alone, as the introduction of a sound was done at every examination. He thought that all operators had been guilty of more or less traction on the uterus at some time or other, and that he had seen deaths following such trivial causes. He was not sure whether they had not been due to sepsis rather than to traumatism.

The Chairman had seen a number of bad results following artificial prolapse, but thought that some of the troubles might be due to the introduction of the sound. It was not uncommon after trachelorrhaphy to find the anatomical results perfect but the pelvic trouble much worse.

The Immediate Repair of Injuries to the Pelvic Floor.—This was the subject of a paper by Dr. I. H. Hance. He thought that in the present aseptic practice of midwifery the operation had the best chances of success, and that only under the most exceptional circumstances should it be put off. He confined his immediate operation to those cases in which the laceration had not extended through into the rectum. These were either where there was a clean cut through the perinæum, or through the skin and perinæum to one side or other of the median line. There was another class in which this immediate repair offered good results, and that was where the posterior vaginal wall had been ruptured without laceration of the skin. The speaker thought that there ought to be no difficulty in recognizing these incomplete lacerations at or just before delivery, thus gaining time to make the necessary preparations to repair them at once. For the operation the patient was placed in the lithotomy position. The parts were then washed with an antiseptic solution. The first suture was introduced high up in the vagina above the tear. If the laceration had extended up on both sides, they were to be repaired separately, great care being taken to get the lips of the wound in perfect apposition. After as many sutures had been introduced as were necessary to accomplish this, another douche was given, the parts were dusted with iodoform, a pad was applied, and the legs were tied together, to remain so for twenty-four hours. The bowels were moved on the third day. The speaker's reason for beginning the suturing high up on the vaginal wall was that by this means the formation of pockets was avoided, and also that he thought this method offered the best results for the restoration of the pelvic floor. Statistics on the subject showed that the largest percentage of successful operations on the pelvic floor were those of immediate repair, the percentages of cures ranging all the way from thirty-eight per cent. to ninety per cent. Another deduction from careful research was that, of all primiparæ, fully twenty-five per cent. suffered more or less laceration. The author then related the histories of several cases of various degrees of lacerations, and the special method adopted in each particular case, the operation in all yielding perfect results. In closing his paper he said that the two points to be closely observed that success might attend the immediate operation were, first, the careful adaptation of the lips of the wound, numbering the sutures to individual requirements; and, secondly, the observance of strict antiseptic precautions.

Dr. C. T. Jewett thought it possible that, if labor was retarded, the percentage of lacerations could be reduced. In his method of suturing he had combined the vaginal and skin suture, but, of course, the vaginal was better if the laceration was high up. He did not pass the suture around the wound, as he thought by this means there was too much tension and puckering of the tissues, but through the lips of the wound, using as many catgut sutures as it required to make apposition perfect. He used catgut sutures, because he had always found them satisfactory. In a case where there seemed to be danger of laceration it was his practice to perform double episiotomy, and then, immediately after delivery, to repair the injury.

Dr. Dudley thought that it was always best to repair such injuries at once. He delivered his patients in Sims's position, which gave him an opportunity of watching the perinæum and preventing laceration. If this occurred, notwithstanding precautions, this position, at least, afforded easy access to the injury. With one finger in the rectum, the wound was closed with an over-and-over stitch. The speaker did not pass the suture around the wound; by this means he thought there was danger of exerting too much pressure on the tissues. He had as yet his first failure in the immediate operation to report.

Dr. Edebohls thought that it was the duty of the accoucheur, in justice both to himself and to the patients, to have the laity understand that such accidents could not always be helped. He had performed a number of immediate operations, and had had no failures. He agreed with the writer of the paper when he said that the vagina would begin lacerating before the perinæum. This possibility could be ascertained by digital examination before delivery, and preparation be made for immediate repair as soon as delivery was accomplished. He used silk-worm gut in this operation and introduced his first suture at the apex of the tear, and continued them down to the posterior commissure. He had never been called upon to introduce more than seven sutures to bring the parts together. It was not his practice to introduce a finger into the rectum, because he wanted his fingers to remain aseptic. He had lately adopted the method of allowing the ends of the high sutures to remain long, so as to admit of easy removal. In several cases he had left the uppermost sutures *in situ* for several weeks, until the perinæum had become strong, before removing them, and had found no evil results from this practice. He had recently made an immediate operation on a patient with complete laceration, which had resulted in perfect restoration of the integrity of the parts.

Dr. Mavette's methods were essentially the same as those practiced by Dr. Hance. He also made it a point to use plenty of sutures. It was his experience to find tears in the median line more or less infrequent. He briefly reported the histories of fifty cases, with varying degrees of laceration, in which the immediate repair was made, primary union taking place in fifty-eight per cent. of the cases. He did not do his operation until oozing had ceased, for fear of a blood-clot forming and preventing primary union. At the end of twenty-four hours after operation a douche of 1 to 8,000 bichloride was used in every case.

Dr. McLean always repaired the damage as soon as possible. He thought the best apposition could be got early, as in a few hours the parts would surely shrink away from each other. He thought that, where the parts fitted nicely together, two or three sutures were quite enough to maintain apposition until healing had taken place. He thought it an injustice to patients not to do the immediate operation.

Dr. Hanks thought that the question was not *sub judice*, but that all had agreed it should be done at once. Of the necessity of leaving no point of sepsis there could be no doubt, and that the good results of the operation depended upon the condition of the tissues and asepsis.

Dr. Coe reported a case of complete laceration in which the immediate operation was done, using the continuous catgut suture, success being perfect. He was in favor of always doing the repair at once, and he used as many sutures in the primary as in the secondary operation.

The Chairman thought that it was still a question as to how this injury should be repaired, but that it should be done at once there was no doubt. He thought that the vaginal suture was the best, for, if the skin only were taken up, the deeper parts were apt to fall away and form pockets. He did not like the use of an odoriferous antiseptic, because it disguised or covered up one of the important diagnostic features of change going on in the wound upon which much dependence was placed.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN ANATOMY AND PHYSIOLOGY.

Meeting of March 14, 1890.

The President, Dr. Purser, in the Chair.

Professor Birmingham exhibited (1) a right lung, the upper and inner parts of which, including the whole of the apex, were marked off by a deep fissure as a supernumerary lobe; the fissure was occupied by a fold of pleura, in the free margin of which the arch of the azygos vein was contained. By this fold of pleura the upper part of the pleural sac was partitioned off, as a pocket-like cavity, in which the supernumerary lobe lay. The anomaly was explained by supposing that the azygos vein had been displaced laterally, and that the heart in descending had pulled the vein through the substance of the lung external to the apex; (2) the two halves of the nasal fossæ—one with the mucous membrane removed, the other with the membrane intact—in which there was almost complete absence of the ethmo- and maxillo-turbinal bones.

Professor Cunningham remarked upon the rarity of the condition.

Professor Bennett considered that it was not pathological.

The Lantern as an Aid to Anatomical Demonstrations.—Professor Birmingham gave a demonstration of the magic lantern applied to the illustration of anatomical lectures. He pointed out that the lantern might be used in daylight in a theatre with a head-light, if the screen was provided with a projecting canopy, so that the penumbra might be produced on its surface. He explained the making of slides, either by photography or by the hand; the latter method gave the most striking results for anatomical purposes. They were drawn with a fine pen in Indian ink, either upon prepared glass, prepared sheets of mica, or upon thin sheets of gelatin, which were afterward placed between two sheets of glass. He had been using this means of illustration (in addition to blackboard diagrams in colored chalks) daily for two years, and he had found it thoroughly satisfactory. He confidently advocated the systematic use of the lantern for anatomical illustration. He then showed a large number of diagrams illustrating anatomical subjects.

The President said that he had made experiments with the lantern in his own theatre, but his results were not so good as Professor Birmingham's when the theatre was not completely darkened. However, he did not think that the lantern ought to be allowed to replace diagrams in colored chalks.

Collective Investigation.—On the motion of Professor Cunningham, the interim reports of the Collective Investigation conducted in the Anatomical Department of Trinity College were read by the gentlemen who had charge of the different investigations, as follows:

I. Dr. W. Henry Thompson—*Formation of the Portal Vein.*—Out of fifty-three cases the *inferior mesenteric* ended in the splenic in thirty, in the superior mesenteric in twenty, and in the angle between both in three. Out of forty-four cases the *coronary* ended in the portal in twenty-six cases, in the splenic in eighteen. Four chief "types" of portal were found in the forty-four subjects—(1) found in sixteen the inferior mesenteric joined splenic, coronary entered portal; (2) found in eleven the inferior mesenteric joined the superior, coronary entered splenic; (3) found in seven both inferior mesenteric and coronary entered splenic; and (4) found in seven neither inferior mesenteric nor coronary joined splenic; former joined superior mesenteric; latter joined portal. The first of these was considered normal. Out of forty-six cases the portal vein was formed at the level of second lumbar vertebra in thirty-two.

II. Messrs. A. C. O'Sullivan and O. L. Robinson—*The Arrangement of the Renal Arteries.*—Forty-three subjects examined. In number they varied from one to four. One or more arteries always entered the hilum; in eighteen cases an accessory artery entered at the upper or lower border; accessory arteries arose from aorta or renals, except in one case, from the common iliac. In forty-six cases all branches passed between vein and ureter, in six they inclosed vein and ureter, in eleven inclosed vein only, in six ureter, and in other six all the arteries passed in front of vein.

III. Mr. J. J. Long—*The Relation of the Internal Maxillary Artery to the External Pterygoid Muscle.*—Eighty-eight arteries examined. The artery ran superficial to the muscle in fifty per cent. of the cases, and then entered between its two heads. In forty-two cases the artery lay deeper than the external pterygoid; in nineteen of these cases the inferior dental and in seven cases the lingual nerve passed down superficial to the artery.

IV. Mr. C. E. Stokes—*The Tuberculum Laterale of the Astragalus.*—Seventy-two cases examined. Two examples of os trigonum found, in each case connected to the astragalus by a synovial joint, which communicated with the posterior astragalo-calcaneal, and in each case the os trigonum gave partial attachment to the posterior fasciculus of the external lateral ligament of the ankle joint.

Professor Cunningham reminded the Section that this was the second report of the collective investigation read before the Academy. Last year different and, in his opinion, more interesting subjects had been taken up and reported upon. A somewhat similar collective investigation was instituted late last year in connection with the Anatomical Society of Great Britain and Ireland, which it was proposed to extend to all the schools in these countries; this placed the anatomical department with which he was connected in a dilemma. While extremely anxious to take part in the general work, yet they felt that this result ought to belong to the Academy of Medicine in Ireland. After some correspondence on the matter it had been arranged that the programme of the Anatomical Society should be adopted, but that the reports from the Irish branches should be read at the Academy of Medicine in Ireland, published in its Transactions, and then handed over to the Anatomical Society.

Professor Birmingham said that the gentlemen who had carried out the investigation deserved the thanks of the Section for the interesting reports which they had just read. He pointed out that Dr. Thompson's report on the termination of the inferior mesenteric vein differed from the results of Treves, who found that the vein terminated in the splenic in only eighteen per cent. of his hundred cases. Treves considered this ending a sign of higher development. Would Dr. Thompson's results therefore point to the conclusion that the Irish whom he examined were more highly developed than those examined by Treves?

Professor Bennett was glad that the reports of the collective investigation had been brought before their Academy, instead of being handed over to the Anatomical Society. Some years ago there had been a collective investigation instituted in London for the purpose of examining into the pathology of hydrophobia. He had fortunately obtained a spinal cord at a post-mortem in a case of hydrophobia; he had sent the cord intact as directed to London, but from that day to this he had never heard one word about that cord. So he thought they had better do their own work at home.

The Parieto-occipital and Calcarine Fissures of the Brain; their Development and Relation to the Calcar Avis.—Professor Cunningham made a communication, illustrated with diagrams, on the development of the parieto-occipital and calcarine fissures and their relation to the calcar avis. He referred to the conflicting views held regarding the development of these fissures, the difficulty in connection with their study being due to the fact that their origin was synchronous with that of the transitory fissures of the brain, and they lay in series with them. For those early fissures corresponding in position to the parieto-occipital and calcarine he proposed the name of "precursors" of these fissures. He traced the connection between the precursors and the permanent fissures, and showed how the history of either of the two fissures might be made out, not only in the brain of the seven months' fœtus, but even, in most cases, in the adult brain. He also adduced phylogenetic evidence in reviewing the question, but he showed that this was in several respects at variance with the ontogenetic evolution of the fissures under consideration.

Professor Birmingham said that the fissures discussed by Professor Cunningham were very unsatisfactorily dealt with in the usual descriptions of their development. He asked what eminence each fissure produced in the interior, if each produced a separate eminence in the adult brain.

Professor Cunningham replied that there was one eminence in the interior—the calcar avis—which belonged sometimes to the calcarine, sometimes to the parieto-occipital fissure, according as the stem of the "Y"-shaped fissure formed in the adult by the union of these two fissures belonged to the former or the latter fissure.

SECTION IN PATHOLOGY.

Meeting of March 21, 1890.

The President, Dr. Bennett, in the Chair.

Lympho-sarcoma of the Neck.—Dr. J. K. Barton presented the following case of lympho-sarcoma of the neck: A tumor, occupying the whole of the right side of the neck, had been growing for four years, the first three of which it was only of the size of a filbert-nut. It had then suddenly commenced to grow, and attained its present size in three months. Fluctuation was elicited in one part. Edges undefined. Diagnosis, a lympho-sarcoma, which had burst through the capsule and had become diffused through all the structures of the neck. The patient, a strong, robust countryman, had become subject to fits of a remarkable kind. He had suddenly become pale, fell over if sitting up, his pulse disappeared, and he had lost consciousness for about a minute. He had then recovered; his color and pulse had returned, and he had sat up. An operation was performed, to see how far the growth could be removed, in the course of which the common carotid artery of the right side of the neck, lying behind the tumor and compressed by it, was found to be completely occluded. At its bifurcation a rent was torn in it, but no blood escaped; it was firmly occluded lower down. The speaker drew attention to three pathological facts of interest: 1, the growth of the tumor; 2, the fits from which the patient suffered, which may have been produced by the compression of the pneumogastric nerve by the tumor; 3, the occlusion of the carotid artery by the pressure of the growth upon it and around it.

Tumor of the Brain; Atrophy of the Right Kidney, with Compensatory Hypertrophy of the Left Kidney.—Dr. Joseph Redmond showed the brain and kidney which were removed from the body of a patient, aged twenty-nine, who died in the Mater Misericordiæ Hospital on April 30, 1889. The patient had received a severe blow of a baton over the right ear in December, 1888, which had stunned him somewhat. From that time until his death he had complained of severe pain in the right side of his head, and had also suffered from fits, which had occurred at intervals of about a week. During these attacks he was apparently unconscious, but the patient stated that he was thoroughly conscious of all that was passing around him at the time. These attacks were characterized by some of the ordinary symptoms which were present in epileptic seizures; the patient simply sank into an apparently unconscious condition, which lasted for ten or fifteen minutes. On the evening of his death the patient had had a number of such attacks, during one of which he had expired. The autopsy showed a slight depression at the posterior portion of the right parietal bone, to which the dura mater adhered. On examining the brain, a tumor somewhat larger than a pigeon's egg was found in the region of the angular and supramarginal gyri, which extended into the substance of the hemisphere. The right kidney was found to be atrophied and the left hypertrophied.

Dr. McWeeney said the peripheral portion of it consisted of small-celled structure, but the internal portion of the tumor was structureless. It was surrounded by thick connective tissue, in which could be seen numerous small thickened blood-vessels. The specimen under the microscope showed the disappearance of the nerve-fibers from the cortex of the brain in the immediate neighborhood of the tumor. The latter was of a syphilitic character, as far as he could make out. He did not see any reason to regard it as tubercular. There was a small scar in the liver, which looked like a result of tertiary syphilis. Why he regarded the tumor as syphilitic was that it involved both the pia mater and the dura mater, which were adherent together.

Lupus of the Larynx.—Dr. Walter Smith exhibited the larynx of a man who had died of pneumothorax consequent upon extensive tubercular disease of the lungs. There was also amyloid degeneration of the liver, spleen, kidneys, and intestines. Fourteen years previously Dr. Bennett had successfully performed the Indian operation for an artificial nose, owing to the destruction effected by old-standing lupus of the face. At the post-mortem examination both lungs were found riddled with vomicæ. Tubercle bacilli were found in their contents. The larynx was involved to a considerable extent. The free edge of the epiglottis had nearly disappeared; what remained was thickened and irregular. There was no ulceration of the cords, true or false. Between the arytænoids were several pyramidal outgrowths, projecting above and below the rima glottidis. The case illustrated the supervention of tubercular phthisis upon cutaneous lupus, and was compared with Leloir's case of lupus of the face, tongue, and larynx, published in the *International Atlas of Rare Skin Diseases.*

Rupture of the Heart.—The President exhibited a case of rupture of the heart. The man had been found dead on the railway with several fractures of the limbs and a scalp wound, but no fracture of the skull. They found no external sign or trace of injury to the thorax in front. A large portion of the sternum was detached from the rest of the skeleton and thrust down on the underlying viscera, all the costal cartilages being broken as well from the second to the eighth. The pericardium and the pleura were found full of blood. At the apex of the right ventricle there was a large rupture. There was another great rent into the right auricle. There was no laceration, neither was there any blood-clot in the heart, nor any rupture of the valves or of the chordæ tendineæ. In the auricular appendix and the musculi pectinati there were two small ruptures. In the back of the heart, at the left auricle, in the interval between the entrance of the pulmonary veins, there were two or three large lacerations. The left auricular appendix was ruptured; but the left ventricle was free of rupture, or of any lesion whatever. Clearly what happened was, that, the heart being full of blood, pressure of the detached bone burst the whole of the three chambers.

Special Articles.

LETTERS TO MY HOUSE PHYSICIANS.

By WILLIAM OSLER, M. D.,

BALTIMORE.

Letter II.

Bern, *May 21, 1890.*

Dear T.: Within an hour after reaching Basel we were in the *Vesalianum*, as the anatomical institute is called, looking for the skeleton which Vesalius presented to the university when he was here in 1542–'43 supervising the printing of his great work. Historically this is probably the most interesting museum specimen in existence, and to Professor Roth is due the credit of determining accurately the fact of its association with Vesalius. Several years ago he sent me his paper on the subject, an abstract of which you will find in the *Medical News* for 1887 (or 1888), in an editorial note. The plates of his work were drawn from this skeleton, which is treasured by the Basel faculty as a most precious relic. Above the glass case in which it is contained is the inscription: "*Männliches Skelet das der Meister der Anatomie Andreas Vesal, aus Brüssel, der hiesigen Universität schenkte als er 1543 sich in Basel aufhielt um der Druck seines grossen anatomischen Werkes zu besorgen.*" Well may he be called the Master of Anatomy, the great Reformer in Medicine, for his work loosened the chains of tradition in which the profession had been fast bound for centuries. His was a bold and venturesome spirit which could dare dispute the statements of Galen and Hippocrates, dogmas revered by the physicians of the sixteenth century as are to-day those of Calvin and of Luther by certain theologians. Professor Roth has recently published an interesting paper (*Quellen einer Vesalbiographie*, Basel, 1889), in which he has given the results of his researches among the archives of the University of Padua, and he has determined definitely for the first time the date and place of the graduation of Vesalius—Padua, December 5, 1537. Please note, too, that he was a young man when he published his great work, another illustration of the theory upon which I am always harping, that a man's productive years are in the third and fourth decades.

It is not a little remarkable that the skeleton should be in such a state of preservation; but above it lies another, prepared by Felix Plater, a renowned Basel professor of the sixteenth century, also in excellent condition.

The Basel Hospital is an old building but very conveniently arranged and with beautiful gardens, in the middle of which is a large summer ward for women and children. I am much indebted to Director Hoch for his kindness in showing me the different departments. In the operating room the table is constructed of zinc with a hot-water chamber, above which is a perforated plate so that irrigation can be carried out. The warming-pan—of which it is practically only a special example—is also perforated in the middle for the escape of the solutions. I am sure that for prolonged operations this is a great advantage in counteracting the depression so liable to occur both from the shock and from the anæsthetic. Not ten days ago I saw the same arrangement in use at the Physiological Laboratory of University College, London, in a prolonged experiment upon the brain of a monkey. Professor Schäfer told me that they had found the animals stood the operations very much better and revived more promptly if the body temperature was kept up in the artificial way. So important did he seem to think it that additional hot water was put in at the end of about an hour and a half.

We found Professor Socin in the operating-room with a class of about thirty men, a patient on the table, and a senior student in the arena, who, during the course of an hour, underwent a most searching examination on tuberculosis of joints and on the particular case before them. It was certainly a most instructive method of procedure, and it was fortunate the poor patient was deaf, as the questions of prognosis and of treatment were discussed thoroughly. Amputation of the leg was then performed, as the disease had progressed too far for resection. We could not but feel, however, that it was hard to keep the poor man waiting on the table. Certainly the ward would have been the more appropriate place for the instruction. The Basel students have an exceptionally clear and decisive teacher of surgery; here again the colored chalks on the blackboard were used at least half a dozen times to illustrate special features of the disease and steps of the operation.

Professor Immermann has charge of the medical clinic, and has a conveniently arranged, though not large, clinical laboratory. The lecture-room is attached to the medical wards, and we heard for half an hour a very practical talk on the treatment of acute Bright's disease. A point specially insisted upon in the later stages was the flushing of the tubes by a plentiful supply of liquids. Then the class was taken into one of the men's medical wards, and a student examined a case of typhlitis, upon which the comments of Professor Immermann were very interesting. The young man had been seized five days before with pain in the right iliac region, not of an agonizing character, and moderate fever, so that he had to give up work. He had not been particularly constipated prior to the onset of the pain, but he had had, several years ago, a somewhat similar attack. The examination showed simply pain on deep pressure in the right iliac fossa, no tumor, no signs of peritonitis. The case was regarded as one of appendicitis, and, as the symptoms had progressively improved, the treatment was confined to the administration of opium and the use of local applications. Great stress was laid on the absence of tumor as a differential point in the diagnosis of appendicitis and typhlitis from fæcal impaction. I gathered that Professor Immerman believed in the existence of a typhlitis apart from appendix disease; and the tumor, which is more apt to be present in these cases, may be due either to primary impaction or to fæcal stasis in the cæcum in consequence of the inflammation. Now, this was a case which illustrated the point I mentioned in my letter to L. I have not the slightest doubt that, if a laparotomy had been performed, an inflamed and adherent, possibly a perforated, appendix would have been found, yet the lad was recovering under ordinary measures. Still, the risks are very great, balancing those of an operation even at this early stage, as perforation into the general peritonæum is always imminent, and then there is the liability to recurrence, as shown, indeed, in this case.

In the Vesalianum one of the Privat Docenten, von Lenhossék, showed us the method of preserving subjects, which is that of Laskowski, of Geneva. An injection of glycerin with carbolic acid, with a little alcohol, is first made, and then the ordinary Teichmann's mass, consisting of putty and bisulphide of carbon, with a suitable coloring ingredient. A preliminary washing out of the blood-vessels is advisable. In Geneva the subjects are wrapped in sheets, which are sprinkled with water, and Ramsay Wright tells me that the bodies were in an excellent state of preservation. Von Lenhossék said that they found it necessary to use alcohol in the tanks. The muscles are certainly very well kept by this method, and the dissection is said to be easier than in bodies preserved with the bichloride of mercury.

In the pathological laboratory Professor Roth showed us a recent specimen of enormous epithelioma which had developed in an old leg ulcer, the result of a fracture many years before. The tumor had involved the bone and the leg had to be amputated. Under his direction, Dr. Dubler, the assistant, has been making an interesting research on suppuration, which has just been published. He comes to the conclusion, from a very large series of experiments, that the pus formation which follows the injection of chemical substances is the result of a delimiting inflammation about a primary necrotic area, and in the same way bacteria act by causing a necrosis, which the suppuration removes, so that there is no essential difference between the process in the two cases.

Here in Bern we found a model hospital on the pavilion plan, situated on a sloping hill on the outskirts of the town, and from the wards there is a magnificent view of the Bernese Oberland. The appearance of the pavilions, rising one above the other in the grounds, is very effective, and the new Royal Victoria Hospital in Montreal, which is also to be on the side of a hill, will, I think, resemble this very much. The Pathological Institute is a large, separate building, with every possible convenience for teaching and research. Professor Langhans was kind enough to show us all his treasures, not the least interesting of which was the skeleton of a bicapitate monster, presented to the university over a hundred years ago by the great Haller, who was a Swiss, and who lived near Bern, I believe, after his retirement from Göttingen. In the post-mortem theatre I was glad to see that to the students' desks towels were attached, a convenience rarely met with.

The medical clinic is in charge of Professor Sahli, a comparatively young man, appointed last year. There are two stories in the chief medical pavilion, with four wards, and there is accommodation for about eighty patients. Connected with it by a covered passage is the lecture-room, with seats for about one hundred students. A very complete electrical equipment and tables for urinary and microscopical examination are on either side of the arena. There were eighty-four students at the clinic, eighteen of whom were women. After a careful analysis with a student of the chief points in the history and treatment of whooping-cough, a case of diabetes was brought in from the wards, and the next *Prakticant* on the list happened to be a woman, who went through the ordeal of questions in the various modes of testing for sugar in the urine. The saccharometer of Hermann and Pfister was shown, and then, after the clinic, those students who so desired had an opportunity of seeing the practical working of the apparatus. On either side of the amphitheatre is the clinical laboratory, with bacteriological, chemical, and microscopical rooms, large, admirably equipped, and very convenient to the wards. Bern is one of the Swiss schools most frequented by women, of whom about fifty are at present in attendance. I was told by one of the professors that they were good students; as a rule, very attentive and industrious, but not always sufficiently prepared in the preliminary subjects. Those at the lecture were all young, but I did not see one who looked likely to become the Trotula of the twentieth century.

Book Notices.

Insomnia and its Therapeutics. By A. W. Macfarlane, M. D., Fellow of the Royal College of Physicians, Edinburgh; Fellow of the Royal Medical and Chirurgical Society of London, etc. London: H. K. Lewis, 1890. Pp. xv–366.

The physiology of sleep, the value of insomnia as a symptom in varied psychic and physical conditions—neuroses, organic nerve troubles, toxic states—and the treatment best adapted to each and all, together with hints and cautions concerning certain peculiarities in the manifestations of wakefulness, form a most interesting volume that is alike valuable and delightful reading. The work is plain, practical, clinical, and is the last word upon a subject of peculiar moment to Americans, who are literally the most wide-awake nation in the world, insomnia being the price paid for making business our only recreation. Even a passing view of Dr. Macfarlane's book must give us pause and show how evil wakeful ways can be mended.

Practical Photo-micrography by the Latest Methods. By Andrew Pringle, F. R. M. S., President of the Photographic Convention of the United Kingdom, 1889, etc. New York: The Scovill and Adams Company, 1890. Pp. 185.

The author gives in this book practical instructions in the photography of microscopic specimens, and has written especially for those who follow the natural and medical sciences rather than for amateur investigators. Whoever is interested in an art which, like all forms of photography, has its captivating qualities, will find in Mr. Pringle's well-illustrated volume a thorough and trustworthy guide.

A Treatise on Headache and Neuralgia, including Spinal Irritation and a Disquisition on Normal and Morbid Sleep. By J. Leonard Corning, M. A., M. D., Consultant in Nervous Diseases to St. Francis's Hospital, etc. With an Appendix. Eye-strain, a Cause of Headache. By David Webster, M. D., Professor of Ophthalmology in the New York Polyclinic. Illustrated. Second Edition. New York: E. B. Treat, 1890. Pp. 10–15 to 259. [Price, $2.75.]

The principal change in this edition is the addition of a short article by Dr. Webster, in which he gives the details of a number of cases in which correction of refractive errors, impaired accommodation or insufficiency of the extrinsic ocular muscles, has relieved persistent headache. Otherwise the work seems to merit the same praise and to be open to the same criticism as the first edition. In many respects it is very valuable. The author's inventive ability may stand him and the profession in good stead. The work is very readable and well got up.

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Rectum and Anus, their Pathology, Diagnosis, and Treatment. By Charles B. Kelsey, A. B., M. D., Professor of Diseases of the Rectum at the New York Post-graduate Medical School and Hospital, etc. Third Edition, rewritten and enlarged. With Two Chromo-lithographs and One Hundred and Sixty-eight Illustrations. New York: William Wood & Co., 1890. Pp. x–483.

Familiar Forms of Nervous Disease. By M. Allen Starr, M. D., Ph. D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, New York. With Illustrative Diagrams and Charts. New York: William Wood & Co., 1890. Pp. xii–339.

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The Reconstruction of Deformed Noses by grafting a Portion of the Finger. By James P. Parker, M. D., of Kansas City, Mo. [Reprinted from the *Medical News.*]

A Case of Hæmatoma of the Ovary following Chronic Catarrhal Salpingitis, with Operation and Recovery. By R. Harvey Reed, M. D.

Extra-uterine Pregnancy. The History of, by Dr. W. G. Miltenberger. Laparotomy for, with Report of a Successful Case, by Dr. T. A. Ashby. Review and Discussion, by Dr. H. A. Kelly. Papers read before the Obstetrical and Gynæcological Society of Baltimore, January 4 and February 11, 1890.

An Investigation into the Ætiology of Phthisis. By Heneage Gibbs, M. D., and E. L. Shurly, M. D. II. On the Clinical History of Phthisis Pulmonalis. By E. L. Shurly, M. D., IV. On the Ætiology and Local Treatment of Phthisis Pulmonalis. By E. L. Shurly, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

A Successful Case of Nephrectomy. By George Ben Johnston, M. D., Richmond, Va. [Reprinted from the *Virginia Medical Monthly.*]

Reports on the Progress of Medicine.

DERMATOLOGY.

By GEORGE THOMAS JACKSON, M. D.

Aristol is, according to Eichhoff (*Monatshft. f. p. Dermat.*, 1890, x, 85), a dermatological therapeutical remedy of great usefulness. Last year this physician gave the weight of his authority to medicated over fatty soaps, presenting their virtues in most enthusiastic phrases. With no less enthusiasm does he now introduce to us "aristol," and were all he says of it substantiated by future experience, we should then have a specific and sure cure for varicose ulcers, seborrhœal eczema, lupus vulgaris (! !), psoriasis, trichophytosis capitis (! !), scabies, and ulcerating syphilides (! !). His prophetic vision descries surgical joint and bone diseases, gynæcological complaints, tuberculosis, whether general or local, and constitutional syphilis flying discomfited and falling dead before this combination of iodine and thymol. The drug is described as insoluble in alcohol, in glycerin, and in water, and soluble in ether and in fatty oils. It combines all the virtues of iodoform and thymol without the disagreeable odor of the former. It may be used in the strength of ten per cent. Thus far the only thing that has not yielded to its power is the soft sore.

Aristol in the Treatment of Naso-pharyngeal Syphilis.—This new drug has found another admirer in the person of Dr. Schuster, of Aachen, who reports (*Monatshft. f. prakt. Dermat.*, 1890, x, 262) very favorably upon its use in naso-pharyngeal syphilis. The case reported was one of ulceration of the pharynx and nose, and the treatment consisted in applying to the parts finely pulverized aristol by means of a powder-blower. Inunctions and iodide of potassium were also employed in the way of general treatment. Within ten days there was a great improvement of all the conditions, and within three weeks the throat was well and the nose nearly so. [Which was the most active agent here in promoting recovery? In testing new remedies, the new remedy should be used alone, otherwise the test is of little value. This is often forgotten.]

Aristol in the Treatment of Psoriasis.—Dr. Schirren, Assistant Physician, Lassar's Clinic, reports (*Berlin. klin. Woch.*, March 17, 1890) good results in the treatment of ten cases of psoriasis by means of this new drug. It acts slower than chrysarobin or pyrogallol. The strength of the ointment used was ten per cent.

Hydroxylamine in the Treatment of Skin Diseases has been found by Dr. Groddeck, of Berlin (*Monatshft. f. prakt. Dermat.*, 1890, x, 162), to be superfluous, as we already have many other agents that are better. He tried it in twenty-three cases, and found it practically worthless. It is poisonous in strong solutions, and also irritating to the skin.

The Pathogenesis of Erythema.—Besnier gives us (*Annal. de derm. et de syph.*, 1890, i, 1) a study of the pathogenesis of erythema multiforme and scarlatiniforme, which he intends as an introduction to a reconstruction of our ideas in regard to the whole class of erythemas. The same form of erythema may be idiopathic, primitive, or autogenous; may arise from some toxic agent from without or an infectious element developed from within in the course of some morbid state. All individuals are not equally susceptible to erythemas, and this individual predisposition is an element of the first order in the pathogenesis of erythema. It is inborn in most subjects and shows itself in infancy by a peculiar susceptibility to all pruriginous dermatoses. In these cases it is permanent. In others it is acquired under the action of some morbid state of the body, and is then transitory and secondary. The individual predisposition being present, common causes act to call out the eruption, either by setting at work the morbid aptitude and provoking the determination, or by placing the individual in an inferior state of resistance and creating the pathological opportunity, or favoring the evolution of the pathogenous element in the organic apparatus. Such is the action of cold, one of the principal common causes of erythema multiforme. When the external circumstances are very pronounced, many individuals who are predisposed to erythema may be affected at the same time, but they never produce true epidemics. What have been called epidemics of erythema multiforme are not such in fact, but are simply erythemas secondary to zymotic diseases, such as cholera, influenza, dysentery, etc., or are abortive and wrongly diagnosticated cases of contagious fevers, such as rubeola, or certain alimentary intoxications, all of which disappear if the accidental cause is removed. Erythema multiforme is a vaso-motor disturbance producing a determination of blood to the skin, diffuse albuminous œdema, serous exudation, and finally desquamative exfoliation. These pathological processes are not exclusively confined to erythema, but are well marked in it. The agent that will excite an angeioneurosis and an erythema is neither unique nor specific. It may act from without exclusively upon the surface, or may be produced within in all sorts of ways. External irritants, absorption of septic substances, poisonous inoculations, microbian proliferations, adulterations of the blood, autogenous or other, may each and all produce an identical erythema. But the irritant itself is not specific, nor can it give rise to erythema in another healthy subject. It would seem that the exciting irritation is conveyed to the vaso-motor centers and thence reflected upon the skin. There is no proof of the presence of any irritating material in the regions where the erythema is manifested. Owing to our want of knowledge of the anatomy and physiology of the vaso-motor system, it is very difficult for us to determine with precision the relation between the erythema and its cause. Our clinical studies of diseases complicated with erythema are obscured in their results by the fact that medicines are often administered at the same time. For a long time rheumatism has been thought to have a causal relation to erythema multiforme. In reality it does not have erythema as one of its symptoms, but it may give rise to it like any other infectious disease, either directly by its proper infectious principle, or secondarily either by producing a deuteropathic infection or by rendering the individual susceptible to the action of medicines given for its cure. In cholera it is difficult to say whether the erythema is due to irritation of the nerve centers by autogenous alterations in the fluids of the body, or to the action of medicines that are generally given in large amounts. In gonorrhœa it is always a question as to the cause of the erythema. It may arise from the disease itself. Less often do the balsams give rise to it, and when the erythema occurs while a patient is taking balsams, it often of itself disappears without stopping the drugs. Typhoid fever serves but as a preparation for the erythemas that arise in its course as the result of medication or auto-toxæmia. In puerperal fever, infectious endocarditis, tuberculosis, syphilis, and leprosy, the same uncertainty of the cause of the erythema is to be noted.

Erythema scarlatiniforme is an erythema with a febrile movement during a part or the whole of its course which may be cut short or last for several weeks or months. This form is of a scarlatinal type and apt to return. Its diagnosis is often difficult, as it resembles scarlet fever so closely. But its non-specific character, its variable and prolonged course, the simultaneous appearance and prolonged coexistence of the eruption and the desquamation, its non-contagiousness, and its relapsing character, place it in the category of the erythemas. In some cases it goes beyond the bounds of erythema and takes on the nature of a dermatitis. The pathogenic conditions of erythema scarlatiniforme are as obscure and complex as those of erythema multiforme. An individual predisposition and intolerance to a number of very varied causes are essential to its production; thus we have cases due to cold and recurring every year, to the use of mercury internally and externally, to the action of the sun, and to other varied causes. All of these may produce erythemas resembling each other exactly. Moreover, in these predisposed individuals the effect will last long after the cause has ceased to act, and will often be disproportioned to it.

Epithelioma Contagiosum (the new name for *molluscum contagiosum*) has been subjected once more to a careful study for the purpose of finding out what it really is. Torök and Tommasoli (*Monatshft. f. prakt. Dermat.*, 1890, x, 149) declare the disease to be contagious, and cite several unmistakable instances of contagion. Inoculation experiments proved negative in their results. Bacteriological and chemical investigations have convinced our authors that the disease is not due to a parasite. The various findings of other investigators that have been given out as parasites our authors declare to be merely artificial products of the methods used by them. Though they have failed in their inoculation experiments and have been unable to find a parasite, still they do not lose faith in the contagiousness of the disease.

Lichen Ruber and its Relation to Lichen Planus.—Toward the solution of the vexed question of the relationship of these two diseases H. von Hebra contributes an article in the *Monatshefte f. prakt. Dermat.*, 1889, x, 101. He first carefully separates lichen ruber acuminatus from pityriasis rubra pilaris, giving the diagnosis in the form of parallel columns, as follows:

Pityriasis rubra pilaris.	*Lichen ruber acuminatus.*
1. Develops in the epidermis.	1. Develops in the cutis.
2. Efflorescences bear scales from the beginning, and often consist of accumulations of epidermic scales alone which can readily be scratched off.	2. From the beginning they are smooth and glistening. Scales form only late in the disease.
3. Efflorescences limited to follicle mouths, especially those of hair follicles.	3. Are not limited to the follicle mouths.
4. Extensor surfaces of the extremities especially affected.	4. Flexor surfaces more affected than extensor surfaces.
5. Microscopically consist of thickening of the epidermis, with lengthening of the interpapillary projections of the rete mucosum in certain places.	5. Marked collections of round cells in the papillary layers of the corium.
6. Color of efflorescences scarcely differs from that of the skin at the beginning. Afterward becomes rosy or brownish-red from consecutive hyperæmia.	6. From beginning a bright red, becoming darker, and may change to deep rusty brown.
7. Roughness of the extensor surfaces of the extremities, and satin-like smoothness on the trunk, with fine scales.	7. Everywhere thickening and roughness of the skin, increasing with the age of the disease.
8. No accompanying subjective symptoms.	8. Unbearable itching, great burning, restlessness, and jerking movements of the limbs.
9. No implication of the general health.	9. Fever, œdema (especially of lower extremities), albuminuria, sleeplessness, general prostration, and loss of weight.
10. Spontaneous recovery, or chronicity without danger to the patient.	10. Often ends in death, always attended with marasmus.
11. Cured by purely local means, though often obstinate.	11. Cured, if at all, by constitutional treatment, as with arsenic. Unna's ointment of mercury and carbolic acid good.
12. Little or no pigmentation left.	12. Deep-brown, even blackish-brown, pigmentation left which may last for months.
13. Does not affect the mucous membranes.	13. Affects mucous membranes, especially of mouth and vagina.

As to the relation between lichen ruber acuminatus and lichen planus, he believes that they are one and the same disease, because he has seen cases in which a general lichen ruber acuminatus cleared away to be followed by a lichen planus; and also cases that began as lichen planus to end as lichen ruber acuminatus. A case of each is given.

Leprosy.—The subject of leprosy is now engaging the attention of the medical profession to a marked degree. In the *Monatshft. f. prakt. Dermatol.*, 1890, No. 5, we find abstracts from three Norwegian articles on leprosy. The first is from Hansen (*Nordiskt med. Arkiv.*, Bd. xxi, No. 4), who has been studying leprosy among the Norwegians in the United States. He examined one hundred and sixty-one subjects who had either brought the disease with them or who had become affected shortly after arriving in the country. He found that the disease took the same course with them here as it does in Norway. He found not a single instance of infection of others from these, or a single case in which the disease had been passed on to the children. He believes that infection has been escaped on account of the more cleanly habits of the Norwegians living here, and the fact that the lepers have been given separate rooms and beds. Kaurin (*Norsk. Magazin f. Lægevidenskab*, 1889, iv, 5) believes that contagion is the chief cause of leprosy, and cites twenty cases of leprosy to support his thesis. Danielsen (*Report of the Lungegaardshospital* for 1886–'88) writes of the therapeutics of the disease. He has found salicylate of sodium uniformly useful in the anæsthetic form of the disease, while in the tubercular form, especially in acute outbreaks, it lessens the fever and causes the new tubercles to disappear. The old tubercles require external treatment. Ichthyol proved valueless. Unna's chrysarobin-salicylic-acid-creasote-ichthyol treatment has so far been of doubtful value. Chaulmoogra oil and salicylate of mercury influenced the disease unfavorably. Iodide of potassium favors the production of new tubercles so long as the disease is active. It is therefore useful as a test of cure. If it is administered and no new lesions appear, then the disease is probably cured.

Tuberculosis Verrucosa Cutis.—A case of this rare disease is reported by Dr. Brugger, of Würzburg (Virchow's *Archiv*, ix, 1890, 524) The disease affected the right leg of the patient. Tubercle bacilli were found in the tissues, and the disease was successfully conveyed to a guinea-pig by inoculation. The disease resembles lupus, but is to be distinguished from it by the absence of lupus tubercles, by the character of its cicatrix, which is superficial, and by not relapsing in the scar. From syphilis it differs in the slowness of its course. From elephantiasis doubtful cases can be diagnosticated only by the microscope and by inoculation experiments. It is probably identical with verruca necrogenica. We can explain the occurrence of lupus in one case, tuberculosis cutis in another, and tuberculosis verrucosa cutis in a third, diseases all depending upon one and the same cause, only upon the supposition that individual predisposition is an active determining element in the disease. It is possible that a general tuberculosis may start from the local infection which gives rise to the disease under consideration. Treatment consists in excision of the growth or in scraping it out, and the subsequent application of caustics.

Paget's Disease of the Nipple forms the subject of an exhaustive study by L. Wickham (*Annal. de derm. et de syph.*, 1890, i, 44). Beginning with a review of the history of the disease, he shows that Paget had a clear idea of the individuality of it, as he first described it as a "chronic inflammation" of the nipple. Then the idea of its being a chronic eczema developed, Butlin in 1876 so describing it. But this view held sway but for one year. Then the impression gained ground that the disease was a special dermatosis, a peculiar form of epithelioma. Various views were entertained in regard to the interpretation of the microscopical appearances of the disease, till at last Darier, in a thesis upon the disease, declared that he had discovered a parasite that caused it. Before describing the pathology of the disease, it is well to give a description of the disease itself. It is characterized by a chronic inflammation of the skin, and of the glands and their ducts, followed by the formation of an epithelioma. Though most often located upon the breast, in one case it has been seen upon the scrotum. It is rare before forty years of age; then it develops slowly and becomes epitheliomatous after from two to six years, though it may become so in a few months, or not for twenty years. It most often affects the right breast, beginning always at the nipple. At its upper surface there are corneous concretions, little tenacious crusts, beneath which there exists at first an itching, erythematous redness, and afterward ulceration and fissures. From this time the nipple shows a tendency to retract. The areola is progressively invaded, and we have a bright-red surface, moist, desquamating or crusted in places, finely mammillated, bleeding easily, and sharply circumscribed. Upon the surface there are disseminated islands of a brilliant red and dry cicatricial appearance. Teleangeiectases may be seen here and there. The process seems to be superficial and gives to pressure a slight papyrus-like induration. Burning and itching sensations give the disease the appearance of eczema rubrum, but in doubtful cases close observation of the border of the disease will decide the doubt. It is always sharply defined, most often taking the form of a red or pale rose slight packing (*bourrelet*) raised upon the sound skin. Upon its surface are dilated capillaries, and at times there is a slight desquamation beyond it. The disease slowly extends over the areola upon the breast, taking often a rounded or oval shape. The nipple is then retracted completely, and frequently is the seat of ulceration. At times it begins as a hard lump deep down in the skin. Once established as a cancer, it develops more rapidly. Ganglionic enlargement only occurs late in the disease, as a rule.

Darier, in 1889, read a paper upon the disease before the Society of Biology in Paris, which was published in the *Bulletin médical.* He then demonstrated that the disease was due to single-celled parasites of the order of cocci or psorosperms and class of sporozoaria. These parasites have been found before, but were wrongly interpreted as cells undergoing transformation, either in the way of degeneration or of proliferation. The discovery of these psorosperms is of great importance from a diagnostic standpoint, as they, being found in the scales or in scrapings from a suspicious case, will establish the diagnosis. They were found by our author in a piece of the growth on the scrotum which Crocker showed to the London Pathological Society as a case resembling Paget's disease of the nipple. The treatment of a case of Paget's disease is also modified by their discovery. When the lesion is still superficial and non-ulcerated, it should be treated with chloride of zinc, followed by mercurial plaster; or with iodoform. It is possible by these means to bring about a cure. When there is ulceration, but not much induration, the surface should be energetically scraped and covered with antiseptic dressings. When a nodule is formed, or there is marked induration under an ulcerative surface, the disease must be cut out.

Tumors of the Scalp.—A. Poncet (*Rev. de chirurg.*, 1890, xi, 244) reports a rare case which has come under his observation in which the head of the patient was covered with a great number of tumors—about sixty in all. They were so numerous that their edges touched. They varied in size from that of a pea to that of a tomato, and were of irregular form, though often round. Here and there they were ulcerated. They were freely movable and here and there pedunculated. In color they varied from that of the normal skin to a violaceous hue. Upon them there was scarcely any hair, while between them there were thick tufts. They were hard to the touch and not fluctuating to pressure. The head gave a nauseous odor, due to a mixture of epithelial and fatty fermentation. There was enlargement of the submaxillary glands. Similar tumors were located upon the body in the dorsal region. These tumors appeared when the man was twenty-one, and ulcerated only upon injury. The man was fifty-three years old and in excellent health. His occupation was that of a sawyer, and the tumors are supposed to have originated in the sebaceous glands, to have been excited by injury, and to be of the nature of Billroth's cylindroma, a species of sarcoma. A number were excised and showed no tendency to return.

The Coincidence of Psoriasis and Syphilis is not so very infrequent. Neumann says (*Wien. med. Woch.*, xl, 1890, 257) that when the two diseases occur together, the diagnosis is made by watching the lesions for the development of a darker shade of red than is seen in psoriasis; by the effect of treatment, an antisyphilitic plan curing the disease rapidly if syphilis; and by the microscopical examination, the round cells being pigmented in syphilis.

Electrolysis applied to the Initial Sclerosis as a Means for the Abortive Treatment of Syphilis is the attractive title of a paper by Peroni in the *Giorn. ital. del. mal. ven. e della pelle* for September, 1889. He believes that the initial lesion of syphilis should be regarded as a purely local lesion until there is some evident reaction on the side either of the lymphatics of the genitals or of the glands themselves. He recognizes the difficulty of making a positive diagnosis between the initial lesion and a chancre (soft sore), and he regards induration of the sore to be the most reliable symptom in differential diagnosis. Believing that the initial lesion is a purely local process, he thinks that he can abort the onset of syphilis by destroying the initial lesion. The best time for the operation is before any symptom of glandular or lymphatic infection presents, and when the sore has existed for less than seven days. The best method for destroying the initial lesion is first to disinfect the part by means of wrapping it completely up in cotton saturated with a solution of bichloride of mercury (1 to 1,000), and leaving it on for twenty minutes. The part is then anæsthetized with cocaine, and, when that is accomplished, the sclerosis is destroyed by electrolysis. To accomplish this he uses a diamond-shaped lance an eighth of an inch wide and a quarter of an inch long. This, attached to the negative pole of a galvanic battery, is thrust into the tissues at a distance of about three eighths of an inch from the edge of the sclerosis and to about half that depth beneath it. When the lancet is in place the current is closed and allowed to pass for from half a minute to six or seven minutes, according to the size of the sclerosis. In this way, if the patient bears the operation well, the whole ulcer may be destroyed at one sitting, this effect being shown by the sclerosis being changed into a whitish pultaceous mass, which may be moved freely without pain. The operation is at times followed by œdema of the part that may last a day or so. Under an antiseptic dressing the wound generally heals in a few days. Twenty-nine cases were operated upon in the manner described, of which twenty-one gave positive results. [A further report will be made by the author. It is to be hoped that in the mean time he will use a milliampèremeter, so that he may give us some approximately exact idea of the current strength he employs.]

The Treatment of Syphilis by Subcutaneous Injection of Mercurial Preparations.—Dr. Leloir and Dr. Tavernier, of Paris, having practiced this method of treating syphilis in all sorts of syphilitic cases during two years, now (*Giorn. ital. d. mal. ven. e del. pelle*, 1889, xxiv, 247) give a statistical report of their experience and a summary of their conclusions. In all they made 1,573 injections. Of these, 875 were of one part calomel to twelve parts liquid vaseline, a half Pravaz syringeful being thrown into the sacro-lumbar muscles, and repeated once a week; 642 were of the yellow oxide of mercury, prepared and used in the same manner as the calomel; and 56 were of "gray oil," consisting of twenty parts of pure mercury, forty parts of liquid vaseline, and five parts of the ethereal tincture of benzoin, of which a third of a syringeful was injected every ninth day. They found (1) that these injections acted specially upon the erythematous syphilide and upon the secondary cutaneous eruptions; (2) that the injections of calomel and of the yellow oxide, especially the first, often caused these eruptions to disappear with a surprising rapidity, or, as they named it, a "true brutality"; (3) that the calomel acts most intensely, and the gray oil least; (4) that all three are much more energetic in their effects than any internal method of medication, though much rougher; (5) that their action on syphilides of the mucous membrane, especially mucous patches, is very slight, and, even while the injections are being practiced, numerous mucous patches will appear; (6) that their action upon tertiary syphilides is very uncertain, as they very often resist the injections and have to be treated by inunctions and the local application of mercury. The principal *inconveniences* from this method of medication are the following: 1. The local or radiating pain caused by them, sometimes most violent, and capable at times of preventing walking. This may last from one to nine or more days. 2. Paralysis of the lower extremities. 3. Vertigo and headache. 4. Eruption of mucous patches in the mouth on the fourth or fifth day after the injection. 5. A mercurial dermatitis about the point of the injection. 6. Mercurial stomatitis, often slight, sometimes severe and long-continued. 7. A simple or bloody diarrhœa some time during the interval between the injections. 8. Non-suppurating cutaneous tumors, sometimes filled with a reddish serum. The treatment met with much opposition in hospital practice, many patients preferring to leave the hospital rather than submit to it. Relapses seemed to be more frequent and precocious in cases treated by this method than in those treated by mercurial inunctions. The calomel injections produced the greatest number of disorders. The gray oil is the most inoffensive, but also the least active. The practical deductions from their experience are: 1. The use of subcutaneous injections of mercury should be limited to the early eruptions on the skin. 2. They may be resorted to when it is necessary to produce a very rapid effect on these eruptions. 3. They are specially if not exclusively applicable to hospital patients, or to those who can remain in bed for a few days. 4. It is a good means for treating prostitutes. 5. Its action upon mucous patches is very bad. 6. It does not prevent relapses. 7. In many cases it fails to cure, and recourse must be had to inunctions. 8. It should not be used against the late syphilides except in those exceptional cases in which it is necessary to use mercury internally at the same time with its local use and the administration of the iodide of potassium. 9. It is contra-indicated in cerebral and spinal syphilis, in visceral syphilis, in pregnant women, and in infants. The only advantage of the method is the rapidity of its action. But this advantage is more than balanced by its inconveniences.

Miscellany.

Maltine and Sterilized Milk.—In an editorial the Cincinnati *Lancet-Clinic* for July 5, 1890, says:

The heat of the last two weeks has been remarkable as occurring so early in the season, it being very rare indeed for fatal sunstrokes to occur in the first summer month. More than a score have already taken place in this city, while the news of the daily press informs us of a similar mortality in other cities and towns, while even those who live in the country are not exempt from the fatal effects of the sun.

Reports of sunstroke are usually of the heat-effects on adults, while the direct and indirect effects on the infant population are many times as great. Too often their main nutrient, milk, has become tainted or poisoned from the absorption of germs and gases, making of it a dangerous article of food and productive of summer enteritis or other trouble that leads to a fatal termination.

At this time of the year it is a good plan to have all milk sterilized as soon as possible. This is a very simple process, and consists of putting the milk in a clean bottle, loosely corking with a clean, new cork, and then placing the bottle in a vessel of water, and heating it slowly to the boiling point, this temperature being continued for forty-five minutes; then tightly cork the bottle and set it in a cool place until needed for use.

The nutrient properties of the milk are not destroyed, or even weakened, by this process, but for most persons it is more easily digested and is more nourishing.

Babies, children, and adults, in hot weather, should live as much as possible in the shade, where there is the freest possible circulation of pure air. Long and frequent cool baths for infants are very conducive to their health and comfort. There is nothing like a long cool bath to relieve the discomfort of prickly or summer heat, following this with a little anointing of the creases of the skin with cold cream, vaseline, or fresh lard.

In cases of looseness of the bowels, a few doses of the ordinary chalk mixture will usually furnish the desired relief. This should be given in tablespoonful doses and after every stool. Where there is a weakening of vitality, with very great propriety and advantage teaspoonful doses of maltine may be added to the sterilized milk, the diastatic power of maltine being capable of rendering soluble and digestible any starchy food that may be in the stomach. Starch foods, such as Irish potatoes and breads, have often been regarded as the immediate and irritating cause of infantile enteric disorders. In part this may be true, and yet these starch foods were the very ones the lacteals and absorbents were crying for and needed to stay the waste that was going on with fatal rapidity.

Right here the inestimable value of maltine, with its diastatic solvent properties, is quickly made manifest in changing the character of the discharges and causing an irritant factor to become one of nutrition; given in sterilized milk, the benefit of both is obtained.

In the city it is a good thing, in every possible case, to send the mother and infant out to the parks and suburbs for one, two, or three hours after sundown. The car ride is easy, while a shawl or other garment spread on the grass will afford a genuine relief and change from the mother's lap or cradle.

A little instruction from the family physician to his patrons in these simples may be the means of saving many valuable lives; nor should the physician take it for granted that his clients are informed in such matters, for very intelligent people sometimes are very ignorant of the plainest hygienic rules. This is especially the case in regard to the care of very young children. We recently saw an illustration of this in a very intelligent-appearing mother, who did not even know how to hold her infant in positions of comfort to the babe and ease to herself. Even in such matters as this the doctor may give wholesome advice.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, August 16, 1890.

Lectures and Addresses.

SURGICAL MYCOSES.

A CLINICAL LECTURE, DELIVERED AT THE PHILADELPHIA HOSPITAL.

By ERNEST LAPLACE, M. D.,

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Lecture I.

Reported by WILLIAM BLAIR STEWART, M. D.

I wish to draw your attention this morning to a number of cases that should not be considered singly—not this, hat, and the other affection—but a condition that I wish you to consider under the name of surgical mycosis.

Mycosis is an affection due to the development in the issues of some fermentative agent, fungus, or germ. In urgery we deal mostly with diseases of the exterior of the ody, such as tumors, enlargements, or solution of continuty; enlargements that remain as enlargements for a long ime, or else, by suddenly ulcerating, turn into an ulcer or olution of continuity. To specify and start a list of surgial mycoses, I will speak first of tuberculosis.

Tuberculosis, as you all know, until 1882 was something ague in the minds of pathologists, and not until Koch esablished the identity of tuberculosis of the lungs and other rgans did we begin to understand the disease.

This patient comes to us with an affection of his joints. On close physical examination, it was found that the apices f his lungs were infiltrated, and we know he is tuberculous. His elbow and wrist are swollen and infiltrated with a subance that is cheesy, and, on probing, it was found that the artilage of the joint had disappeared and dead bone was ound. The cheesy substance is so typical that we know it the result of tubercular degeneration, so that there is no ason why we should not pronounce this a case of tuberulosis of the elbow joint, and if we would apply a theraeutic measure it would require amputation.

I will show you all the cases I have this morning at once efore operating, and demonstrate to you the great similarity at pervades their ætiology. The next case is one of cheesy egeneration of the cervical glands. The same process has ken place in the glands of the neck, and we have that eesy product of tuberculosis. Here you can see the erno-mastoid muscle running across this opening, and around it is the same cheesy material that you saw the former case. The neck is infiltrated. I want in is case to call your attention only to the identity of the ocess.

Next is a case of carbuncle that is nearly well, but is pical enough for illustration. You all have seen a carncle and you know how large, painful, and ill-defined it and when it approaches suppuration a crucial incision is eded. You notice several so-called openings, or heads, om which comes yellow, cheesy matter. There is disoration around it and it is hard and boggy. This pus ounds with germs which are named *Streptococcus pyogenes aureus, Streptococcus pyogenes albus, Streptococcus pyogenes citreus*, and *Bacillus pyocyaneus*.

These are found in ordinary furuncle, but, for some reason or other, several furuncles form in the same place, and, when so formed, we call it a carbuncle.

Next are two cases of pronounced epithelioma. I wish you to remember the appearance of the tuberculosis of the glands and arm and draw the analogy between epithelioma and tuberculosis of the skin. Here is a large epithelioma. This patient had a small wart that was removed a year ago but returned. The growth is in a rapid state of development, is movable, and does not affect the superior maxillary bone. What I want to draw your attention to is the fact that here is a fungus-like growth that develops rapidly and is recurrent. It has recurred in this case just as tubercular growths recur when they have been improperly removed.

This is a patient whose left cheek I wish you to see first. There is a tumor, large, adherent, non-fluctuating, and a slight ulceration near the base. If you saw this tumor alone you would be puzzled as to a diagnosis between syphilis, tuberculosis, and cancer; but, in view of this patient's history, we are warranted in diagnosticating it on first sight. The tumors of both sides of the face are of the same nature—epithelioma. The point of interest is that here is a tumor that bears a close resemblance to tuberculosis, since it has involved the same tissues as tuberculosis and looks like it. May we not be led to think it may be caused by something analogous to the cause of tuberculosis?

Here is a case of senile gangrene. You find the arterial circulation perfect to the middle of the limb. It is a case of soft gangrene and the obstruction is in the veins. Gangrene is death of the part due to a cutting off of nutrition—the circulation. The leg presents an emphysema below due to sulphureted hydrogen and carbon-dioxide gas that are the result of the fermentative process in the limb. Why does it putrefy? Because vitality has disappeared by a cessation of circulation. This alone would not cause putrefaction, but we must have the germs present to destroy the tissues or cause this suppuration. You know that if we take a piece of meat, boil it and can it, it will keep for a long time and not spoil; but the dead tissues of this leg, by exposure to the atmosphere, have been infected by germs, and the putrefaction called gangrene was the result. In this case, then, there was an arrest of the circulation and then an infection by germs. This is another illustration of a surgical mycosis.

The next case is one in which the diagnosis is not perfectly clear, and must be treated symptomatically until we find the true ætiology of it. Here is a woman who came into the wards two weeks ago and presented a tumor of the neck that came rather suddenly and appeared to be intimately connected with the thyreoid body and which would rise and fall with the act of deglutition. In a few days the growth limited itself and spread to the right, and did not rise and fall with deglutition. Yesterday it presented symptoms of acute inflammation and was highly fluctuating. Although I am not positive as to a diagnosis, yet I am positive that there is fluid here, owing to the acute inflammatory process, especially on the surface. Whatever it is, it is due to a rapid proliferation of cells of one of two kinds—either it is filled with pus, or else there is a rapidly developing epithelioma of one of the lymphatic glands, and in this case we would find a growth consisting of epithelial tissue, giving a soft and fluctuating appearance that you find in this condition.

Before we operate on this patient I wish to dilate on the idea that I have brought before you of arranging such facts under a heading that refers them to their ætiology. It is only in that way that we can put surgery on a more scientific basis, by reasoning from an ætiological standpoint rather than from a clinical aspect, as many diseases have the same ætiology, and the same mycoses will demand the same treatment.

Such consideration has only been possible since Koch demonstrated the tubercle bacillus. Then came Rosenbach with the discovery of the germs of suppuration and, necessarily, the cause of ulceration, for there is a disintegration of the skin over the place that has suppurated. Other experiments were made on ulcerations that were not of this form, until Israel, who came in 1884 and described *actinomycosis*, which is the so-called ray or star fungus disease and exists in the bovine species. The fungus enters the mouth and alimentary tract, and is carried by the blood and develops on the face, or on the surface of the thoracic cavity, and causes infiltration and ulceration, in which these germs have been found. Just as these germs have been found to cause suppuration, so these ray fungi have caused this disease of actinomycosis, also a surgical mycosis.

Anthrax is the next affection due to a peculiar germ. It is also called malignant pustule, or splenic fever of animals. Butchers and tanners are especially liable to it. They have a wound on their hand which becomes infected by this peculiar germ and develops the disease malignant pustule, which is very dangerous.

As to syphilis, you may consider it under the same heading. Lustgarten described the bacillus of syphilis, but it has not been positively demonstrated.

Although complete researches have not been made as to the cause of cancer, yet the researches of Scheuerlein are sufficient to establish the presence of a germ—the same germ for epithelioma and cancer. In order to prove a germ we must subject it to four tests:

1. We must find the same germ always present in the same affection.
2. The germ must be isolated and grown.
3. The germ must be inoculated and produce the same disease.
4. The germ must be found the same after inoculation.

It has been found that the rat is very susceptible to cancer, and we can inoculate it and cause a growth like cancer. Finally, you see what progress has been made in the ætiology of surgical affections, simplifying the matter and bringing it down to irritants in the body. Let us hope that the coming generation will make as great improvements in the treatment as the past has in the ætiology of surgical mycoses.

Original Communications.

A REPORT OF
SEVEN OPERATIONS UPON THE KIDNEY.*

By WILLIAM D. HAMILTON, M. D.,
COLUMBUS, OHIO.

Renal surgery may be said to have received its first legitimate impetus in 1869, when Simon, of Heidelberg, relieved a patient suffering from ureteric fistula by removing the kidney of the affected side through a lumbar incision. The growth of this phase of abdominal procedure has been rapid from that time to this, and certain operations on the kidney are looked upon to-day as conservative undertakings. No paper, however brief, would be complete which omitted the name of that master of renal surgery, Mr. Henry Morris, of Middlesex Hospital, London; while the valuable contributions of Thornton, Tait, Hahn, Bennett May, Lange, and many others, deserve prominent mention in this connection.

The cases forming the subject of this paper are six in number, and are all that have come under the observation of the writer in the last three years in which an operation was allowed. There were two nephrorrhaphies, two nephrotomies, two nephrectomies, and one incision, with drainage, for perinephric suppuration in a case of movable kidney. In a paper read before the Ohio State Medical Society at Toledo, in June, 1887, a successful nephrectomy, after preliminary exploratory incision, was described. Hence it will be seen that nine operations on the kidney comprise the entire experience of the writer in this department of surgery, and that, although in three instances the kidney was removed, all the patients recovered.

Judging from this list, the observations of Mr. Greig Smith and others would seem to be correct:

1. When the kidney is not greatly enlarged, lumba nephrectomy is easier and safer for the general surgeon t perform than the anterior operation.
2. A preliminary nephrotomy lessens the danger of nephrectomy.

Absolute cleanliness was observed. A bath and laxative preceded the operation in each case. The bowels wer thoroughly emptied, a simple diet having been persisted i for some days. At the time of operation the loin wa scrubbed with soap and water, washed with ether, and afte ward with a warm sublimate lotion. Antiseptic irrigatio was freely resorted to. In the preparation of hands, instr ments, sponges, and everything else that could influenc the result, as great care was exercised as though the perit neal cavity were to be invaded. I would here emphasi the great importance of having the patient covered wit warm woolen blankets, except about the field of incisio In this way the pleura is less liable to give rise to troub by becoming inflamed after operation.

Case I. *Tubercular Suppuration of the Kidney; Nephrotom Nephrectomy Three Months Later; Recovery.*—Mrs. K., a sto

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* Read before the Northern Ohio Medical Society, June, 1890.

German woman, aged twenty-two; residence, Columbus; married one year, and had never conceived. Has always menstruated regularly. In childhood she was treated successfully for hip disease, and, although she limps slightly, has nothing else to show for her early misfortune. She had never had pain so intense that it could properly be called renal colic. Examination showed the lungs to be healthy. For several months prior to her admission to the hospital she had been losing flesh and strength. It was on account of frequency in urinating that she consulted a physician. Every such act was attended with scalding pain. At night her sleep was invariably interrupted in this way. Her appetite was poor. For four months she had had chilly sensations, a rise of temperature, and occasional night-sweats. During the few weeks in which she was under observation her pulse was never less than 100, and her temperature ranged from 100·5° to 102·7° F. A dull, aching pain had existed in both loins, especially in the right one, during the previous few months, and was subject to occasional exacerbations. She had observed that her urine, usually cloudy during her illness, was clearer and less in quantity when the right lumbar pain was most intense. A sandy sediment had been visible a few times. Blood had never been seen in the urine. Riding, walking, or any sudden movement always hurt her. Aside from such aggravating causes, she suffered more in the morning than at other times. Pressure over the left loin caused no inconvenience, but on the right side was distressing to her. No enlargement of the kidney or tumor was discernible through the thick parietes.

Examination of the urine showed that the reaction was invariably acid and that pus was always present. Neither casts nor tubercle bacilli were ever discovered. Sounding the bladder indicated the absence of stone. Vesical irrigation with a warm olution of boric acid gave temporary relief.

Diagnosis.—Pyelitis, with possibly stone in the kidney.

Operation, October 13, 1888.—Ether narcosis. Costo-iliac space was very short. A hard pillow having been placed beneath the sound side, thus putting the right loin on the stretch, an incision was made four inches and a half long, below and parallel to the last rib, terminating two inches and a half from he spine. It was extended for a distance of an inch vertically ownward at its inner end. The fatty capsule was normal and ot strongly adherent. The kidney, enlarged to several times he ordinary dimensions, was lobulated and fluctuant. Explora-ory puncture revealed an inodorous mixture of pus, urine, and erum. An incision into the renal substance permitted the free ischarge of this fluid. Carrying in the finger, the organ was ound to be converted into a sacculated tumor, the various comartments of which contained fluid. No stone was found. Thorough irrigation with bichloride solution was employed, a ubber drain was inserted into the kidney substance, and the wound was closed with silk stitches. Her convalescence was neventful, the wound healing except in the track of the drainge-tube, where urine and pus continued to discharge.

There was an entire subsidence of pain and hectic, and the rine voided in the natural way became perfectly clear and was free from albumin. She grew stronger, her color improved, nd but for the presence of the fistulous opening, her health would have been perfect. She was advised to have the kidney emoved in order to get rid of this source of irritation and anoyance; and accordingly re-entered the hospital.

Operation, January 19, 1889.—Incision through the old icatrix. The various anatomical layers were matted together so as to render them difficult of recognition. Owing to the hickness of the parietal fat and the density of the scar, the isoation of the kidney was by no means easy. The proper capsule having been incised, the fingers were used in separating the adhesions between capsule and kidney until finally it was generally freed. At this point the greatest obstacle to the completion of the operation was encountered. Although diminution in size had supervened as a result of the nephrotomy of three months before, the great depth at which the pedicle had to be secured, and the fact that fully the upper two thirds of the organ lay behind the projecting rib and intercostal space, added to the delay, and frequent efforts to ligate the pedicle resulted in failure. Finally a wire écraseur was passed around it, and included in its grasp vein, artery, ureter, and a small amount of renal tissue. In order to deliver the kidney it was cut away piecemeal, the constrictor being tightened during the dissection. Thorough irrigation followed and the écraseur was left in the wound. Considerable pain marked her convalescence. There was very little fever and the urine remained clear. The instrument was tightened from day to day as the pedicle loosened, and it came away four weeks after the operation. Anodynes were employed to subdue the localized pleuritic inflammation that followed. She was discharged a few days later, and has since remained in good health. A small sinus lasted for some months, but finally ceased to give rise to annoyance.

Case II. *Supposed Case of Renal Calculus; Preliminary Exploratory Incision; Temporary Relief; Recurrence of Hæmaturia; Nephrectomy; Recovery.*—Miss J. P., aged twenty-six; residence, Delaware, Ohio. Had been an invalid for five years and a half, during the latter part of which time she had painful micturition as often as four or five times hourly, night and day. She had several attacks of renal colic, four of which were very severe. The worst one had occurred just prior to her admission to the hospital. For two years previous to operation she had never been free from hæmaturia. Pain was always referred to the left loin, which was tender on pressure, although there was no sign of enlargement. She was reduced in flesh and weighed eighty-five pounds. She was a bedridden invalid most of the time. Her father had died of phthisis pulmonalis, and she had incipient disease of the same character. Her last attack of renal colic, in April, 1889, continued a week, was very severe, and a large quantity of clear blood was passed. The urine usually contained blood finely mixed with it. No pus, casts, albumin, or sabulous matter could be detected. Tenderness in the left loin was so marked that she flinched, even when under ether, if pressure was applied to that part of the body. Sounding for vesical calculus yielded negative results, and a careful use of the instrument failed to discover any papillomatous tumor or other irregularity in the wall of that viscus. Examination by the rectum and by conjoined manipulation produced like negative results. Her alvine evacuations and menstruations were regular and presented no peculiarities. In the previous year she had habitually observed that the hæmaturia was aggravated during the premenstrual week. All attempts to relieve this condition by rest and medication failed. Urethral dilatation and antiseptic vesical irrigation likewise were of no avail. Something must be done to relieve the continual drain upon her strength. An exploratory left lumbar incision was advised and was performed by Dr. Charles S. Hamilton. The usual plan was adopted. The organ was found upon exposure to be slightly above the average in size, smooth, and free from indurations in its substance. All parts of it were carefully examined with the finger. A systematic series of punctures was made, but no abnormity was discovered. The wound was closed, a drain was inserted, and healing was prompt. For a week there was entire cessation of the hæmaturia and very little pain, the quantity of urine voided in twenty-four hours remaining the same as before—*i. e.*, from one to two pints. The fact that a subsidence of symptoms had taken place for the first time in a year after extensive puncture of the left kidney was regarded as strong presumptive evidence that the organ of that side had an important relation to the hæmaturia.

Furthermore, the bleeding, pain, and scalding in passing water had returned with redoubled intensity, and greatly discouraged the patient. She was advised to submit to a second operation, and if, after incisions into the renal substance, no explanation of the hæmorrhage could be found, nephrectomy was to be done.

Operation, May 15, 1889.—Having fresh in mind the difficulties encountered in previous nephrectomies, I followed the very valuable suggestion of Lange by resecting the twelfth rib, so as to give increased room for the necessary manipulations. The incision through the former cicatrix was easily accomplished, as union was not yet firm. An extension of it at an acute angle, joining the inner end of the former one, resulted in the formation of a V-shaped flap. The muscles were well cleared away in the dissection toward the median line, which greatly facilitated the operation. A coarse silk ligature secured the pedicle *en masse*. Her convalescence was tedious. She had no hæmaturia, voided healthy urine freely, and gave no anxiety on account of ugly renal symptoms. Owing to the free exposure of the pleura, the unavoidable chilling of the left side from having it uncovered during the operation, and the cooling effects of evaporation following irrigation, she had a sharp attack of pleurisy with effusion. This, however, finally yielded to appropriate measures, the wound healed kindly, and she has gained in flesh and strength. She is now in good health, weighs one hundred and nine pounds, and is filling a responsible clerical position.

This case is one involving rather unscientific interference in that the kidney is apparently healthy. It involves a startling and apparently unjustifiable empiricism. The explanation of the hæmaturia and pain I am unable to give. The supposition that a small calculus became lodged in the ureter and escaped detection may explain it. Again, early tubercular involvement might account for it. The justification would seem to lie in this fact, that a young woman who had been a confirmed invalid for three years has been restored to health and usefulness. It may well be added that an operator should feel better satisfied when, in addition to having his patient get well, he is able to indicate clearly the pathological reason for the course pursued. She has had amenorrhœa since the last operation, and it is hard to convince her that the uterine appendages were not also removed.

CASE III. *Movable Kidney; Nephrorrhaphy; Recovery.*—Mrs. N. B., aged thirty, sent by Dr. C. F. Coyle, of Galion, Crawford County, Ohio, had had both menstrual and premenstrual pain for nine years. Had soreness in the left inguinal region. The most severe pain was that which preceded menstruation for several days, and was of a bearing-down character. The effort to walk any distance caused pain. A copious stool was attended with soreness in the region of the left kidney. Examination showed a tumor descending on the left side to a level with the anterior superior spine when the patient stood upright. It was freely movable, and, if the horizontal posture was assumed, it could readily be forced into the loin. On October 5, 1889, an incision was made below the last rib, similar to that described above. The fatty capsule was found to be very loose. The proper capsule was incised. Silk stitches were made to include skin, subcutaneous structures, and both capsules, the fatty capsule being pulled taut in such a manner that the excess lay outside the wound. No febrile disturbance ensued, and healing by granulation was the result. The organ has remained in its proper place, and she is free from symptoms that could be attributed to the pathological condition alluded to.

CASE IV. *Suppurating Kidney; Nephrotomy; Recovery.*—Mrs. G. T., of Columbus, was referred to me by Dr. N. R. Coleman, who had diagnosticated a suppurating left kidney. Was twenty-seven years old, had been married nine months, and her menstrual life had been a normal one. There was nothing pointing to the existence of pelvic suppuration. In her sixth year she had severe pain in the left side, always aggravated by riding or jolting. The only period of her life in which she had enjoyed entire immunity from suffering was that extending from the twenty-first to the twenty-fourth year. She had always been subject to renal colic. With the exception of the interval alluded to, she never passed a month without one such experience. The pain started in the loin and followed the ureter. She estimated that forty attacks had occurred in the last three years, and they had been steadily increasing in severity. Furthermore, pus had been observed for the first time in the urine, and had increased in quantity until it became very profuse. No stone or sabulous matter was ever visible.

The average amount of urine excreted in twenty-four hours, when Dr. Coleman first saw her, was one quart, and half of it was purulent. Reaction always acid. Vomiting had never taken place.

The weight of the patient was seventy pounds, whereas formerly it had been one hundred and thirty. It is uncommon even in advanced phthisis to see greater emaciation. The left hypochondrium and loin were exceedingly tender and quite prominent, especially at a point an inch behind the midaxillary line in the center of the costo-iliac space. Upon palpating the left loin, a hard, tender, rounded, smooth swelling filled the upper part of this space and encroached upon the hypochondrium. It was all the more apparent on account of her extreme emaciation. The same tests applied to the other side elicited an apparently healthy condition. The average pulse was 90, temperature 99·37°. Diagnosis confirmed. Nephrotomy. On November 19, 1889, an incision in the most tender part of the loin found the fatty capsule tough, indicating inflammatory changes A needle brought pus. The knife, being inserted, opened a larg abscess cavity, the contents of which were very foul. A pint and a half of this material was discharged. The kidney wa extensively disorganized. After thorough washing out with weak sublimate solution and the insertion of a rubber drainage tube, the wound was closed. No untoward symptoms wer present, and she got well rapidly. Her appetite became goo and she took on flesh at such a rate that she gained sixty-thre pounds in six months. The urine is normal, she is free fro pain, and, aside from the fact that she has an inoffensive sinus her health is excellent.

CASE V. *Movable Kidney; Nephrorrhaphy; Cure.*—Mrs. E R. K., of Plain City, Madison County, Ohio, was sent to me b Dr. J. H. Gardner, of that place, with the above diagnosis She was twenty-seven years old, had been married five years had one child three years old, and had miscarried at the sixt month soon after marriage. She dated her disability from th latter event. Her menstruations have been regular, and for seve years had been painful. During the last six months she ha dragging pain for a week prior to menstruation. Beginning i the right loin and following the direction of the ureter of th side, there was continual soreness, aggravated at times by stan ing or walking. A smooth, ovoid tumor could be detected o the right side. It was freely movable between the upper part the right inguinal and the lumbar regions. Its shape was th of the kidney. A singular fact in her case was this: that lyin on the back frequently caused her pain to increase, and at suc times standing erect gave her relief. In the last two years and a half she had had twelve attacks of severe pain in that part of the abdomen indicated. The urine was normal. There was no nausea. The diagnosis of movable kidney was confirmed, and nephrorrhaphy was done January 25, 1890. The same plan was adopted as in Case III, the skin, fatty, and fibrous tissue being secured with silk stitches, the fatty layer having been pulled taut while the redundant tissue was allowed to remain on the outside. Free scratching of the kidney was resorted to, so that an abundant plastic exudate would be thrown out. In this, as n Case IV, Mr. Morris's suggestion of stuffing the wound lightly with gauze was used and with good effect. Healing by granulation resulted, and there was an entire absence of unpleasant symptoms. This patient has unquestionably been entirely relieved, so that she now enjoys perfect health. She has gained ifteen pounds in weight.

Case VI. *Movable Kidney; Nephrorrhaphy attempted; Perinephric Suppuration found; Incision and Drainage; Failure to find the Kidney; Recovery; Improvement.*—Mrs. C. A. W., of Columbus, a delicate woman, aged fifty, married twenty-one years, had four children, the youngest ten years old. She had not yet ceased to menstruate. Ten years previously, after the birth of the last child, she had typhoid fever followed by severe pains in right foot, on account of which she wore a supporting hoe for two years. This was followed by severe pains in the back, for which a plaster jacket was put on and worn for three months with some relief. One year prior to admission she had a relapse and her health became poor. She had rigors, loss of ppetite, flesh, and strength. Micturition occurred fifteen to wenty times in twenty-four hours, accompanied with burning pain, referred to the neck of the bladder. When standing or walking, her form was stooped. A movable lump descended to within an inch of the level of the navel. She had pain in the ight kidney and ureter, and was only comfortable when lying n that side.

Specific gravity of urine, 1·020. Traces of albumin. Diagnosis, movable kidney.

Operation, February 18, 1890.—The usual lumbar incision for nephrorrhaphy was made. Opening the loin, a large quantity f inoffensive pus escaped. It resembled thick mayonnaise ressing. The kidney could not be found. Irrigation was thoroughly carried out and a drainage-tube was inserted. Her recovery was tedious, but was not marked by intensity of symptoms. She was discharged from the hospital four weeks later. he has gained several pounds in flesh, and can stand and walk rect without pain. The kidney can now be located where it is rmly fixed nearly as high as it should be. She feels well as long as the sinus discharges. There is now about twelve per ent. of pus in the urine.

In cases where perinephric suppuration attends a movable kidney, failure to find the organ at the time of operation has occasionally resulted. In this case the improvement in position is probably due to contraction of the bscess cavity—*i. e.*, the distended fatty capsule. The radical operation of removal may yet have to be done.

A New Alkaloidal Reagent.—"M. Brociner finds that sulphotellute of ammonium in solution in sulphuric acid gives characteristic olors with certain alkaloids. Thus with digitaline it gives a reddish olet tint, gradually becoming more intense; with chelidonine it gives first no reaction, but in a few seconds a green color becomes apparent, becoming more pronounced in about four minutes; with apomorphine it gives a violet color; with narcotine a fugitive rose tint; and narceine becomes first yellow, passing to a dirty green, finally turning violet."—*British and Colonial Druggist.*

A CASE OF SEVERE HÆMATURIA;

NEPHRECTOMY BY DR. McBURNEY.

RECOVERY.[*]

By F. TILDEN BROWN, M. D.

C. G., twenty-six years of age, five years married, three children. No miscarriages. Family history markedly gouty. Health previous to the first attack of hæmaturia had been good, except for two periods of marked and somewhat critical anæmia. The first of these occurred two years before marriage, the second a year later.

In March, 1888, when her second child was four months old, appeared the first recognized trouble with the right kidney, and attributed to over-exertion in caring for her child. The symptoms as now recalled were sudden and marked hæmaturia; pain in the right kidney region, radiating to the distribution of the anterior crural nerve below Poupart's ligament; fever reaching at the highest 104° F. Her attendant at this time, a man of great experience and marked ability, diagnosticated the rupture of some renal vessel. Acute pain and hæmorrhage disappeared rather suddenly at the end of five days. The only subjective sequence was a sense of dull pain in the right side and thigh when she was tired. Examination of the urine on one or two occasions after this attack is said to have shown considerable pus. However, the patient felt well enough to dispel any thought on her own part of chronic disease.

The second attack occurred in August, 1888, when she was two months pregnant. As the patient made a sudden jump and strain to seize a child from a wave on the sands she experienced a sharp pain in the right side.

On reaching home twenty minutes later she found her urine heavily charged with blood. This attack was characterized by a repetition of the symptoms of the first, with the exception that the fever was not so high. In this, as in the first attack, the repeated use of a stiff catheter was necessary, not as it is ordinarily used, but to punch back the blood-clots blocking up the sphincter vesicæ and preventing micturition.

Diagnosis by a different physician, renal calculus; and treatment in accordance was followed by rather sudden recovery from acute symptoms in about the same time as was the first attack.

Third attack, October 26, 1889, at which time I first saw the patient professionally, and learned that an hour before at the first morning urination she noticed a marked hæmaturia, and at the moment thought it a menstrual manifestation, which was welcomed because there was some reason to believe herself two months pregnant; and for the dissipation of this she had recently resorted to the hardest riding, domestic fatigues, and Turkish baths. The night before, on going up stairs, she felt some pain in the back, but the night had been passed free from any discomfort. A second micturition shortly after the first was more heavily charged with blood and attended with some pain, as large blood-clots passed the urethra. Synchronously with the appearance of hæmaturia, pain was first felt in the right side. This pain was continuous, but at times much augmented, with an extension of the painful area to Poupart's ligament and some in the leg below. Clots collecting in the bladder were already troublesome in retarding urination.

Physical examination of the suspected region showed tenderness on pressure between the twelfth rib and the crest of the ilium. Antero posterior palpation with one hand compressing this region and a little lower was equally sensitive. No tumefaction was appreciable; percussion was normal. Vaginal examination relative to ureter and bladder was negative. Temperature (sublingual), 100·2°; pulse, 76.

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[*] Read before the American Association of Genito-urinary Surgeons.

The examination of urine showed specific gravity 1·030; color, deeply stained with blood evenly distributed. Reaction *very* acid; sediment, moderately copious.

Microscopical Examination.—Blood-corpuscles in great quantity; pus-corpuscles in quantity; great numbers of a long rod bacillus; no crystals of any kind.

Chemical Examination.—Albumin, one eighth bulk.

Diagnosis.—Renal calculus. Treatment was instituted to meet the prominent indications—viz., pain and hæmorrhage.

For the next four days the patient's condition continued much the same, except that exacerbations of pain were more severe. The afternoon temperature reached a higher point, 103°. Clots collecting in the bladder were now more painful to pass. The patient at each micturition was compelled to resort to the punching process with the silver catheter. Any movement in bed caused distress in the kidney region, and palpation of it showed increasing tenderness. Many of the clots were as large as and resembling a poached egg, while several, thicker than a pencil and five inches long, were evidently casts of the ureter.

At this time Dr. McBurney was called in consultation, the result of which, after careful examination of the patient and a review of the history, was to support the diagnosis, at the same time advising a continuance of the expectant plan of treatment, until, as the previous attacks led one to hope, an early and sudden cessation of the hæmaturia would permit a clearer appreciation of the renal affection to be gained by repeated urinary analysis. Fluid extract of ergot was added to the treatment.

During the next five days the patient had been constantly approaching a more serious condition. Anæmia was now very marked. Nausea and vomiting had seriously interfered with taking the requisite food. Increasing pain was demanding morphine in greater quantity. Clots had so distended and irritated the urethra that every micturition was a source of anxiety. Ergot had seemed to increase both renal pain and hæmorrhage; in consequence it was discontinued after two days. Twice these symptoms—pain and hæmaturia—had for a short time very encouragingly diminished, but, without appreciable cause, returned in a few hours as bad as or worse than before. At this juncture the patient's condition seemed to me to demand surgical interference. The patient craved it, and her family, realizing that this attack was so much more serious in every particular than former ones, were equally solicitous.

Dr. McBurney was asked to perform nephrotomy. To this he agreed, making the appointment for two days later, November 5th, should no improvement be reported in the mean time.

On gross examination the two specimens of urine passed just before operation were but faintly blood-colored. Notwithstanding this, in the face of the previous disappointments, it was not deemed advisable to credit this suggestion as permanent.

The total quantity of urine passed during the twenty-four hours before operation was thirty-six ounces.

Operation.—All the evidence pointed strongly toward the existence in the kidney of a calculus, and the rapidly failing condition of the patient called for immediate and energetic measures. The operation was begun with the intention of exposing the surface of the kidney, in order that the organ might be thoroughly searched. After every antiseptic precaution had been taken, a four-inch incision was made just below and in the line of the last rib on the right side. The outer edge of the kidney was readily exposed, and then the posterior surface laid bare. The operator failed to detect any foreign body in the pelvis of the kidney. On the posterior surface in the lower half a small, hard, elevated spot, perhaps a quarter of an inch in diameter, led to the belief that a calculus might be imbedded in the substance of the organ at this point. A round needle was thrust first into this spot and then into many other parts of the kidney without result. The anterior surface was then uncovered, and by bimanual examination a rapid but thorough search was made, which was equally unsuccessful in discovering a cause for hæmaturia. Further loss of time in the search for calculus seemed unwarranted in view of the already prostrated condition of the patient. No other means of putting an end to what would certainly have been a fatal hæmorrhage remained for consideration but the shutting off of the blood-supply, which could only be accomplished by the extirpation of the kidney. This plan was not difficult to carry out, and was executed as rapidly as possible. The kidney was still more completely enucleated from its fatty envelope and drawn well into the wound, and, as time was all-important, the vessels and ureter were included in a single heavy catgut ligature, at as great a distance from the kidney as possible. The kidney was then cut away. No hæmorrhage followed, and the wound was closed with deep and superficial sutures, a large drainage-tube being introduced at each extremity of the wound. A heavy antiseptic dressing was applied. Although scarcely any blood had been lost during the operation, the patient was markedly shocked at its close, and required hypodermic stimulation and heat to establish reaction.

The subsequent report is condensed from copious notes. Every specimen of urine passed was measured, freshly bottled, numbered, and almost immediately examined at the patient's house, where I was constantly present for the ten days following and well equipped for this work.

November 6th.—For the first twenty-four hours after operation temperature averaged 102·5°, pulse 130, respiration 22; total urine, 23½ ounces.

The early part of this period was characterized by moderate shock. Afterward the prominent symptoms were nausea and vomiting; muscular twitching, especially during sleep; deep flushing of the face; a complete numbness in the right leg; at times free perspiration. The first urine was passed eight hours and a half after operation—in amount four ounces. It contained some blood, but not, as before, evenly distributed throughout the urine, as is the case when these fluids are mingled in the kidney. This urine then represented the new scanty secretion which was contaminated in the bladder by the blood-charged urine forced from the removed kidney just before or during the operation.

After this the urine was free from blood, except as found microscopically.

7th (second day).—Average temperature, 102°; average pulse, 128; total urine, 20½ ounces. The patient continues in the same condition, experiencing nausea, twitching, localized flushing, and sweating. Specimen of urine No. 8, passed at 11 A. M., was the first in which renal casts were found. The four following specimens showed epithelial and granular casts in increasing numbers, and albumin in increasing quantity, amounting at the most to one fifth bulk.

Dr. McBurney visited the patient to-day. The wound was redressed for the first time. It was in an absolutely aseptic condition, and showed union throughout its entire length close up to the drainage-tubes.

Owing to nausea, rectal alimentation has been given at times during the day.

8th (third day).—Average temperature, 100·2°; average pulse, 118; total urine, 21½ ounces. This appears to have been the most critical day experienced by the patient subsequent to the operation. Although the pulse and temperature are lower such other symptoms as constant nausea and vomiting, great restlessness, dryness of the skin, persistent muscular twitching, and for the first twelve hours diminished urinary secretion—all combined to cause alarm. Early in the afternoon infusion of digitalis is given *per rectum*. Hot poultices packed about the kidney, and a combined hot-air steam bath given in bed. To this the skin promptly responded, and sweating was continued, with few interruptions, for twenty-four hours. Besides which the urinary secretion was somewhat augmented.

9th (fourth day).—Average temperature, 99°; average pulse, 104; total urine, 19½ ounces. Patient passed a better night than at any time since the operation. Number of renal casts is much diminished. Quantity of albumin slight. Some nausea. No vomiting. Patient begins taking strophanthus, five drops every four hours.

10th (fifth day).—Average temperature,. 100·4°; average pulse, 118; total urine, 18½ ounces. Albumin is again appearing in greater quantity. Casts with renal epithelium and a few blood-corpuscles are once more noticeable. The work thrown upon the single kidney is evidently embarrassing its functional power, and the entire organism acts in sympathy with its labored working. The wound is redressed. A slight suppurative condition is found about each drainage-tube, attributable, undoubtedly, to the copious sweating which had worked under the dressing, soiling it, and carrying septic material to the wound. Hereafter dressing of the wound was done daily.

11th (sixth day).—Average temperature, 99·4°; average pulse, 111; total urine, 20½ ounces. Patient's general condition slightly improved, especially the gastric symptoms, and is sleeping better. Albumin has again diminished. No casts found.

12th (seventh day).—Average temperature, 98·8°; average pulse, 107; total urine, 32 ounces. Patient is complaining of general discomfort. Occasional heavy pains in the back. Some ragged, decolorized clots or membranes were wiped from the vulva after micturition.

13th (eighth day).—Average temperature, 99°; average pulse, 103; total urine, 24½ ounces. Condition same as previous day.

14th (ninth day).—Average temperature, 99·8°; average pulse, 110; total urine, 28 ounces. As the recently anticipated symptoms of miscarriage became fairly manifest I lent all aid to facilitate the process, and at noon the fœtus with amnion and fluid came away intact. A uterine douche of carbolic-acid solution was given.

15th (tenth day).—Average temperature, 98·8°; average pulse, 102; total urine, 39 ounces.

For three days after this miscarriage the patient's condition was bad, notwithstanding her lower temperature and pulse-rate as well as a notable increased urinary secretion. The loss of blood was considerable and the utter prostration very pronounced. In fine, the patient's ultimate powers of resistance seemed to have reached their limit. An odor emanating from the entire body accentuated these other warnings. Fortunately, the digestive organs were now relieved of reflex uterine embarrassment and were able to retain and assimilate the really large quantities of food and drink forced upon them. Improvement was at once manifest. The elimination of urine on this day (November 18th) was sixty-five ounces. Henceforth convalescence was rapid and complete. A month later the patient weighed ten pounds more than ever before, and was said by her family and friends to look better than she had for several years. I have made regular urinary examinations at stated intervals during the seven months since this operation was done, and find an average report to be about as follows: Total urine in twenty-four hours, 47 ounces; specific gravity, 1·018; color, faintly opaque; reaction, over-acid; sediment slight.

Microscopical Examination.—Oxalate of calcium crystals; very few pus-corpuscles; always a number of rod bacteria.

Chemical Examination.—Never phosphatic or albuminous.

The kidney was submitted to Professor Delafield, whose report is as follows: "The mucous membrane of the pelvis of the kidney is considerably thickened and its free surface is somewhat roughened. The layer of epithelial cells is in place, but these cells are changed by post-mortem conditions. The muscular portion of the mucous membrane is considerably thickened. There is a growth of round-celled tissue beneath the epithelium, which in places forms small papillæ, and there are irregular infiltrations of the same round-celled tissue in the thickness of the mucous membrane. The same changes exist in the mucous membrane of the calices. Evidently there has existed a chronic pyelitis with the production of new tissue. From a mucous membrane altered in this way there could very well be a good deal of bleeding."

In conversation with Dr. Delafield he expressed the opinion that the original cause of this dangerous hæmorrhagic pyelitis was doubtless a calculus which had probably escaped among the large and numerous blood-clots which had been passed. But it is clear, from the whole history of the case, that a chronic condition had long since been established which was in itself capable of giving rise to fatal hæmorrhage, although the probable original cause—viz., calculus—had disappeared. Therein lies the chief interest of the case.

The literature of kidney operations recounts a number of cases where the symptoms of renal calculus existed, but where nephrotomy, needle puncture, and manual examination failed to verify the diagnosis. A number of these cases are reported to have been improved or permanently cured, seemingly, by the examination. It is impossible to think that these particular cases could have been similar to the one I now report, for, given a hæmorrhagic pyelitis and subject it to this treatment, it would of necessity result in the aggravation of all symptoms. In this connection I can not refrain from calling attention to the brilliant appreciation, on the operator's part, of the exigencies encountered in this case, for, when the calculus we expected was not found, the masterly conception and execution of an immediate nephrectomy in the face of very unfavorable conditions will receive the recognition it deserves, whereas it is now easy to appreciate that a so-called conservative step at this juncture would unquestionably have resulted in a rapid sinking of the patient from the hæmorrhagic state already existing and intensified by traumatic exploration.

It is conceded that there are few operations where cool and clear judgment on the part of the operator are so necessary as where, under certain or uncertain conditions, it must be decided whether or not to extend a nephrotomy to nephrectomy.

The effect of nephrectomy upon the remaining kidney, even when this is healthy, is always marked. Whether this is to be ascribed to direct reflex through the nerves of the sympathetic and cerebro-spinal systems, or to the sudden and burdensome physiological demands upon it, is unsettled. In most cases probably these two embarrassing factors are united.

One observed fact points strongly to the reflex inhibition as the more important—viz., where nephrectomy is performed on an organ long since useless by cystic distention, its ureter blocked by inflammatory adhesion around an imbedded calculus. Here the other kidney has for some time accustomed itself to the performance of double duty, yet here the same reflex shock may readily result in temporary, complete, or gradually increasing suppression.

I have not been able to find reference to any case like the one here reported, where renal disease simulating calculus was attended with alarming hæmorrhage, where nephrectomy was necessary to save life, and where a thorough patho-histological examination of the entire organ showed only a chronic pyelitis to be the cause of so serious a complication.

Consequently I would claim originality for this case in that heretofore, even if suspected, no such procatarctic cause for severe hæmaturia has been shown by operation and pathological examination. Hæmorrhagic pyelitis or chronic pyelitis with acute hæmorrhagic exacerbations would best designate the disease.

A SUGGESTION
CONCERNING THE INTIMATE RELATIONSHIP BETWEEN BULBO-NUCLEAR DISEASE AND CERTAIN OBSCURE NEUROTIC CONDITIONS OF THE UPPER AIR-PASSAGES.*

By JOHN NOLAND MACKENZIE, M. D.,
BALTIMORE.

THE reciprocal relationship between lesions of the central nervous apparatus and certain morbid phenomena exhibited in the upper respiratory tract is a subject of surpassing interest, and one, strange to say, upon which comparatively little original work has been done. There has been too great a tendency for specialists to confine research within exact anatomical limits and within too contracted a sphere of observation.

The intimate connection between a large number of affections of the upper air-tract and the sympathetic and cerebro-spinal systems of nerves irresistibly obtrudes itself upon the recognition of even the most superficial observer, and it is therefore all the more remarkable that attention has not been sufficiently drawn in the direction of such an obvious fact. Except in the case of certain paralytic affections, whose pathology is often, but by no means always, sufficiently obvious, the subject is either passed by in silence by text-books on laryngology, or dismissed with a page or two of glittering medical generalities which amount simply to a confession of learned ignorance. Words take the place of explanation, and the more they multiply the more vague and indistinct the subject becomes.

There are a host of obscure neurotic phenomena seen in the upper air-tract that suggest themselves at once. Not to multiply examples, take, for instance, the disease known as "functional aphonia," or the affection to which Sir Morell Mackenzie has given the name of "spasm of the tensors of the vocal cords." What do we know concerning the pathology of either one of these affections? The conclusion is resistless that they are in some way connected with central trouble, and yet we know absolutely nothing of their primary causes. We know by empirical clinical experience that the former disease can be cured by the application of electricity within the larynx, or, for that matter, upon any indifferent part of the throat, and that the latter is in the vast majority of cases incurable. However we may delude ourselves and our patients into the belief that in the first case we accomplish a cure by direct stimulation of the laryngeal muscles, regard for absolute truth compels the confession that we do so by a sort of miracle, so to say, of psychic impression; while in the second case we do not cure, because we have no anatomical or pathological basis to go upon.

I have in numerous former publications, which are familiar to most of you and to which I need not therefore refer, endeavored to point out the intimate union between certain obscure respiratory troubles and disorders of the sympathetic nervous system, and have formulated a number of propositions which, I believe, may enable us to approach more nearly the scientific generalization of a host of phenomena whose kinship has never before been sufficiently considered.

While in some quarters I have encountered adverse criticism, and while open always to correction, my subsequent clinical experience encourages the belief that my former conclusions were in the main correct. But while the testimony of our special senses must accord to the sympathetic an important rôle in the pathology of many obscure affections of the upper air-tract, it must not be forgotten that it is often only one factor in the mechanism of the attack, while in other cases the cerebro-spinal system is the agent most conspicuously concerned. It is this part of the subject that I desire to speak of to-day.

I shall submit these remarks to you simply as a suggestion, and, in order to provoke discussion, will read some notes from a case which came long ago under my observation, not because they contain anything strikingly original, but solely to give those who may follow me in the discussion something tangible upon which to base their remarks:

Mrs. X., aged about forty, consulted me nine years ago with the following history:

She had enjoyed good health up to ten years prior to consultation, when her husband died a drunkard. Prior to and after his death she had had a great deal of domestic trouble. Examination of her family history and that of her husband reveals nothing positive. She has never had syphilis, nor received any injury in any part of the body. Her circumstances have always been good and habits temperate, and she is not naturally inclined to a nervous temperament. For some time prior to her husband's death domestic sorrow had led to much mental excitement.

Shortly after his death, while cleaning her room and apparently in perfect health, her face became suddenly drawn downward and outward to one side (the left). This was especially noticeable about the angle of the mouth. There was no difficulty in articulation and no other symptoms, and the attack passed off in three days under treatment. Following the attack there was an interval of apparent health up to within about a year before she consulted me. She had been washing clothes all day in the yard, and awoke the next morning to find that she had lost power in her right hand. Sensation in the fingers was abolished, so that she could not pick up things nor hold them in her hand. She could grasp the hand of her physician only with difficulty. With this was associated numbness and tingling in the extremities without loss of power, and twitching of one of the tendons in the palm. The tingling sensation extended into the throat and gave rise to considerable malaise. She ascribed this attack to having carried the wet clothes on her arm during the day before. These symptoms lasted about a week, and as they were disappearing she noticed slight difficulty in articulation, causing her to mumble her words. There was no aphasia. This grew worse, and she complained of some oppression in the chest. At the same time she noticed that her mouth was drawn a little to the left side. She took to bed, and in about a week began to improve. Her speech became clear, but she complained of pain in the throat and legs, the latter becoming swollen. All these symptoms disappeared, however, and several weeks after their subsidence, while sweeping her room, she was suddenly seized with a foaming at the mouth and puffing outward of the cheeks; had no other symptoms except tingling in the right hand. No fall, convulsion, etc. She walked up stairs immediately, but could only mumble out a few unintelligible words. When the violence of the attack had passed off she noticed a weakness of the tongue, with difficulty in its protrusion and difficulty also in articulation. At this time her legs were swollen, and she had tingling sensations in them with formication. The trouble with the tongue grew gradually worse, and about six weeks before seeing me first noticed slight dysphagia, especially in the deglutition of liquids. At the same time she was taken with pain in the back of the neck and shooting pains in the hand. These, together with occasional flushes of heat in the head, passed away. She remained in the above condition until two weeks prior to consultation, when she began to talk through her nose. She has lost flesh lately.

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* Read before the American Laryngological Association at its twelfth annual congress.

Symptoms on Admission.—Face has a characteristic lacrymose appearance, with a tinge of alarm. The mouth is lengthened and drawn closely across the teeth; its angles are depressed and the naso-labial sulci deepened. The tongue can be protruded, but with difficulty, and she can not lift it to the roof of the mouth, nor can she place it above the upper lip. Its movements are slow and evidently require effort to effect them. It is long, sharp, covered with a foul, white fur, but has no appearance of atrophy, nor are there any fibrillar movements. Its sensation is good and taste is unimpaired. There are small tumors at its tip (fibrillar?). The lips look normal (the patient thinks they are larger than usual). Can blow out a light at a foot from the mouth, but at a greater distance fails to do so. Can not whistle or kiss, but can close and open the mouth perfectly. Attempts at laughing result in a ludicrous expression of the face. The muscles of the mouth and pharynx react but feebly to the faradaic current. Sensibility is intact. There is no paresis or loss of sensibility in the other muscles of the face, head, and eyes. There is some difficulty in mastication, and the patient's laugh degenerates into a grimace.

There is complete paralysis of the soft palate and uvula, and the reflex excitability there and in the pharynx is notably diminished, so that these parts can be irritated without provoking anything but a feeble response. Sensibility and muscular irritability are not impaired. There is some congestion of the parts, but otherwise their appearance is normal. There is no deflection of the uvula.

Rhinoscopic examination of posterior nares and nasal pharynx negative.

The larynx is normal in appearance, but its reflex excitability is much diminished. This is especially noticeable on the epiglottis, whose surface can be irritated without provoking the slightest motion. There never has been the slightest trouble with vocalization, except slight fatigue on exertion. There is great difficulty in expiratory efforts, such as gargling, coughing, etc. She has a small amount of dyspnœa, which becomes considerable on exertion. The saliva is not increased in quantity, but is thick and tenacious from admixture with the buccal mucus, and has to be withdrawn from the mouth with the finger. The difficulty in expectoration is considerable. During sleep she is often awakened by a sense of suffocation, only relieved by withdrawal of the mucous secretion. During the daytime her handkerchief has to be constantly held to the mouth to catch the abundant secretion.

The patient speaks in a mumbling manner difficult to comprehend, and as though there was some difficulty in closing the glottis, although the excursions of the vocal cords are normal, as seen with the laryngoscope. No aphasia, no confusion of words or syllables.

The right hand and both legs show great muscular weakness. There is pain in the right leg and stiffness and tenderness about the neck.

Temperature normal; pulse regular, 120; respiration 30.

The patient's temperament since her attack has been nervous. Her friends say that without apparent cause she breaks out into spells of noisy weeping, followed by equally unaccountable laughter. Her intelligence is intact, appetite poor, bowels regular.

These observations and the history of the case were taken at her first and only visit, for, receiving an unfavorable prognosis, she never returned, and I am therefore unable to give any further particulars. The above-mentioned data are, however, abundantly sufficient to establish the bulbar-nuclear nature of the trouble. It is unnecessary to comment in detail on this case. It is one with which the neurologist more than the laryngologist has to do, but it is the representative of a class of cases from which both may derive instruction. If specialists in the different departments of medicine would, instead of standing aloof from each other, combine the special knowledge they possess in a common endeavor to elucidate the difficult problems which daily confront us, the hostile cry of ignorant criticism would be forever silenced by their discoveries for the common weal.

THE USE AND ABUSE OF THE GALVANO-CAUTERY IN THROAT PRACTICE.*

By HENRY SCHWEIG, M. D.

Since the accession of the galvano-cautery to the ranks of recognized therapeutic resources its use has become more and more restricted to a certain class of cases, and the indications for its employment have been from year to year more clearly and sharply defined. In no class of ailments, however, has this been more strongly exemplified than in the disorders occurring in the upper respiratory tract, so that to-day it may be safely assumed that, while there exist differences of opinion regarding the employment of the galvano-cautery in individual cases, still there can exist no two opinions in the matter of the general broad indications for its use. Many failures are recorded and negative results are not few, but careful analysis and investigation will not infrequently discover either improper selection of cases or a want of knowledge regarding the technique of galvano-caustic operations.

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* Read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, May 27, 1890.

In throat practice the first class of cases in which the galvano-cautery promised brilliant results was vascular growths, and this was based mainly on the knowledge of the hæmostatic properties of the ferrum candens. While some observers reported brilliant results, others had only failures to chronicle, and with these conflicting data the perpetuation of certain operative procedures seemed anything but assured. The ablation of tumors, removal of papillomata, condylomata, tonsils, and mucous polypi, and amputation of the uvula were accomplished by the cautery.

Of cases that have come under observation during the past decade, those yielding particularly favorable results were, in first order, vascular growths and anterior nasal hypertrophies, and also slight deflections of the septum, hypertrophy of turbinated tissue, granular pharyngitis, hypertrophied tonsils, adenoid vegetations in the vault of the pharynx, and papillary enlargements at the base of the tongue. In the larynx the results have not been so encouraging. In anterior nasal and turbinated hypertrophies the most brilliant and lasting results can be obtained, and it is in just this class of cases where a want of knowledge of the technique of cautery work does much mischief.

It should be borne in mind that from the first moment of the closing of the circuit there is a steady increase of heat in the nasal cavity, and that scorching and interference with the integrity of the surrounding tissues becomes a source of menace, and that adequate protection of the contiguous structures should be secured. The apparent reaction so frequently noticed after cauterization with the galvano-cautery is in reality no reaction, but a scorching pure and simple, and inexcusable on account of its easy avoidance. Another cause for complaint in this class of cases has been the large areas of destruction remaining after the employment of the cautery, showing dry, glistening patches where the muciparous glands had been destroyed. Here is evidence of the unskillful use of a valuable therapeutic agent, as the method of subcutaneous destruction by the galvano-cautery, when properly practiced, leaves the lining membrane of the nose practically intact, and still completely destroys any redundant tissue that may exist. In the spur-like deflections of the septum much can be done to remedy the deformity without the pain and danger attending the use of the trephine, saw, drill, and chromic acid. No open surface remains to suppurate or serve as an avenue for the entrance of septic matter, very slight or no pain is felt during the operation if cocaine is employed, and very little after, there is no hæmorrhage, and the slough is thrown off in a comparatively short time.

But it is mainly in the pharynx—which, on account of its accessibility, is most frequently treated—that the abuse of the cautery is carried to its extreme. Permanent cicatricial contractions of the pillars of the fauces and ragged tonsils riddled with holes testify to this. I know of no other portion of the upper air-passages more sensitive to the action of the cautery than the faucial pillars, and I have often observed contractions following the free or incautious use of the cautery here which rendered deglutition and respiration painful.

That frequent complaint of singers and public speakers, granular pharyngitis, in which bunches of enlarged follicles have coalesced, forming elevated vascular ridges and interfering with proper voice production, is amenable to no other treatment that yields as good results as the galvano-cautery. We have here all the conditions that call for a destructive agent that can be easily handled, is free from danger when properly used, and the action of which can be limited to a nicety, destroying just enough of the hypertrophied tissue to leave a smooth and free surface.

Here as well, however, the destructive process may be carried too far and a condition far worse than the original one substituted if the potency of the agent employed is not borne in mind. It suffices simply to puncture each elevation. A double effect is thus secured, as, in addition to destruction of tissue, we also secure a slight amount of contraction in the cicatrices. Beneficial as this is, so harmful is it when carried too far, leaving, as it does, deep and annoying contractions.

Until a very recent date operations at the base of the tongue were attended with much hæmorrhage and pain, and interfered seriously with deglutition. At the present day, with the aid of the galvano-cautery and the irido-platinum wire snare, enlargements of the papillæ, for instance, can be reduced with ease, or can, if desired, be more slowly and perhaps more effectually removed by repeated punctures with the cautery point.

May I be permitted in this connection to again call attention to the subcutaneous method of destroying growths?* I have found it of great service in a number of cases of marked enlargement of the papillæ at the base of the tongue. In fact, it applies to all vascular growths, the destruction of which it is desired to secure without interfering with the integrity of the mucous or cutaneous surface and without leaving any appreciable breach of surface. Too much stress can not be laid on the advantages of this method of operating, as many dangers are avoided thereby and a clear field for operating is secured, as there is no hæmorrhage to interfere. For a fuller description, reference may be had to the article quoted above.

A word as to the form of battery to be employed. All batteries which depend for their action on the immersion of elements at the time of operation should be discarded, as, from the moment the elements come in contact with the exciting fluid, the strength of the current becomes gradually less and polarization begins. This objection does not obtain in the Grove system; but a more serious objection—the employment of two acids, and the necessity of almost daily refilling of the battery—makes this practically useless. The only form of battery which should be employed, and which can be relied upon to furnish a current of uniform strength at all times, is the storage battery, and this should in every case be provided with a German-silver wire rheostat.

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* Reflex Symptoms of Nasal Disease. By Dr. H. Schweig. *Med. Record*, Jan. 22, 1886.

It is impossible with the many forms of electrodes used in connection with a cautery battery to supply a current which, without certain modifications, will bring all electrodes to a uniform degree of heat, but with a properly constructed rheostat this can be regulated to a nicety. About ten years ago, when the storage system came into more general use, it occurred to me to establish a permanent cautery plant on my operating table, and this has so simplified the use of the cautery that I may be permitted to describe it.

In a closet convenient to the office a number of gravity cells are placed and connected by insulated wires with the storage cells, which are placed under the table. From the storage cells connections lead to two binding-posts fixed on the table, and between these two posts is placed a rubber button connected by means of a vertical rod with a rheostat directly under it, but concealed. By raising or lowering the rod—*i. e.*, by decreasing or increasing the resistance—any desired degree of incandescence can be obtained, and the heat of the lightest as well as the heaviest burner nicely regulated. The importance of this device becomes more apparent in the use of the wire snare, as, with the gradual diminution in the size of the loop, the current must be diminished. The same current which heats a loop of an inch to a red heat would bring a half-inch loop to a state of white heat, and destroy a still smaller one. The gravity cells remain permanently connected with the storage battery, which is being constantly charged and is always ready for use, and can be detached from its connections in the fraction of a minute if required for use elsewhere. The only attention which this plant requires is the addition every two or three weeks of a quantity of water to the gravity cells sufficient to compensate for loss by evaporation, and the occasional addition of sulphate of copper to prevent exhaustion of the cells. In this manner the use of the cautery is stripped of all its complications and becomes a matter easily controlled. A word of warning as to large electrodes and heavy, thick insulating material. In the nose and throat small electrodes only are required, as the more slowly we operate the greater the assurance that there will be no hæmorrhage; and in working in cavities—the nose, for instance—the room is so restricted that the working space is seriously diminished by a heavy insulator, and the field of operation is also obstructed.

In a word, in the use of the galvano-cautery the surgeon requires much fine discrimination and tact, and needs not alone a thorough knowledge of the technique of his work, but also a knowledge of the construction of the instrument employed by him, for without that he will not be in a position to meet the many little annoyances that may be caused by bad contact, improper connections, and breaks in the circuit. As a rule, the electrode should be heated to a cherry-red, and in nasal surgery the surrounding parts protected by a proper device. I find that the ordinary metal aural speculum answers every purpose.

The advantages of the cautery can be summarized in a few words.

Its employment is not followed by hæmorrhage, provided care is observed not to tear the electrode from tissues to which it may adhere, but allowing it to burn its way out, as it were.

It is a powerful hæmostatic.

Its advantage over other destructive agents lies in the fact that its action can be controlled and localized to a nicety, and does not extend, as in the case of the stronger acids, to contiguous structures.

There is no reaction and the process of repair is rapid.

There can be no doubt that many operators have discarded the cautery owing to bad or unsatisfactory results which might have been avoided by a closer study of the action of the agent employed by them, and it is my firm belief that those observers who have not yet employed the cautery will gain from its use results both satisfactory and convincing.

26 East Twentieth Street.

RECENT INVESTIGATIONS IN STRABISMUS.

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Since the appearance of Professor Schweigger's monograph on strabismus, ophthalmology has lost the peace of mind it had previously enjoyed in this respect. Its tranquil faith in the theories of its great masters was disturbed. Donders and Graefe and all the other leaders in the science had taught that a squinting eye gives up all its visual function in that part of the field which is common to both eyes, that its impressions were "excluded," and thus they explained the amblyopia generally found in such eyes (and therefore termed *amblyopia ex anopsia*) and the absence of diplopia.

But Schweigger found, or confidently believed he had found, that all this was false, and called it a "history of errors." From him we learn that the strabotic eye yields its full complement in the common visual act, and that the amblyopia mentioned above is congenital, in no way differing from ordinary congenital amblyopia, and, far from being the result of strabismus, is in itself a factor in its production. Abandoning the old theory of the "innate identity" of corresponding retinal areas, which had necessitated the "exclusion theory," he regarded the faculty of binocular vision as acquired, and, as such, as easily unlearned in early youth, and that in strabismus new associations take the place of earlier acquired relations. Thus he escapes the difficulty of explaining the absence of diplopia.

New facts bearing upon this discussion were few, and the matter has remained a disputed question. Light has, however, been thrown upon this subject recently. Dr. Hirschberger, of Munich, published an article entitled The Binocular Field of Vision of the Strabotic,* embodying the results of a long series of examinations and experiments made while assistant at the ophthalmological clinic of the Munich University. This article must be looked upon as the most valuable and important contribution that has been offered in deciding this question.

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* Binoculares Gesichtsfeld Schielender. Von Dr. Karl Hirschberger. *Münch. medicin. Wochenschr.*, 1890, No. 10.

Having seen him examine many of his patients, and having verified his results by frequently repeating his examinations for myself, I can testify to his results. The remarkable facts revealed, and their interest and many-sided importance, lead me to bring an account, as far as he has published it, before the American profession.

Recognizing that the mooted question could be solved in no other way than by accurately determining in strabismus the part played by each eye in vision, and not in certain parts of the field of vision only, but throughout the whole field, Hirschberger devised a method of examining as simple as it is efficient and ingenious.

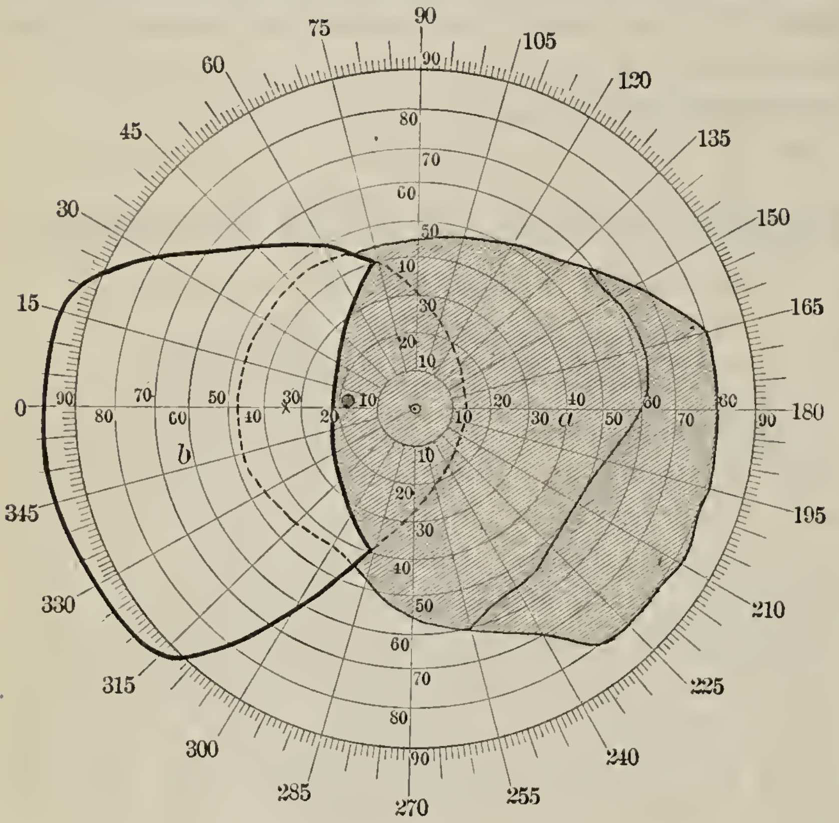

Fig. 1

He examined the field at the perimeter, leaving both eyes open, the non-deviating eye being directed upon the center; the test object used was a spot of blue color,* and a plate of glass of the complementary color—yellow—was held before one eye. To the eye seeing through the yellow glass the spot appeared black, and so it was easy to distinguish throughout the field where it appeared black and where blue, or, in other words, when it was seen by one eye and when by the other.

Subjecting cases of divergent strabismus of moderate degree to such an examination, he found a composite figure resulting similar to Fig. 1. This represents the field of a case of divergence of the left eye of 35°. The yellow glass was held before the right eye. The shaded portion shows where the blue spot was looked upon as black, the field of the right eye; the clear part where it was recognized as blue, the field of the left eye. This proves that *the field of the left squinting eye is somewhat restricted in binocular vision*, for, under normal circumstances, it should extend about 35° farther to the right, as is shown when examined singly; hence *there is exclusion in the squinting eye.* If, however, the experiment is reversed, the colored glass being placed before the squinting eye, we find that the form of the separate fields remains unchanged, the field of the normal right eye extending to about 20° on the nasal side, while in monocular vision it extends to 40° or 50°. This discloses a fact hitherto unknown—that in binocular vision the *non-deviating eye yields up a part of its field for the benefit of the squinting eye; that there is exclusion in the non-deviating eye!* This fact, as surprising and remarkable as it is, can be verified in most cases of strabismus.

The binocular field of vision in these cases consists of portions of the fields of each eye added to each other without overlapping or having parts in common, in this respect differing greatly from the binocular field of non-squinting eyes. There is a sharp line dividing the two portions.

To test the degree of the exclusion of visual perception, the reflex of a candle-light from a small plane mirror was used, and it was found that not even this intense light was seen in those parts which had been marked out previously as the areas of exclusion in each eye.

The size of the areas of exclusion was generally found to be in an inverse ratio to the degree of the angle of the divergent strabismus.

Examining the binocular fields in convergent squint in the same manner, they were found more or less as represented in Fig. 2. This is the field of a case of convergence of 30° of the left eye. The yellow glass was held before the right eye; *a*, *a* are entirely controlled by the right eye, *b*, *b* by the left; *c*, *c* are variable, in some cases belonging to the one, in others to the other eye, occasionally to both. As in the case of divergence, reversing the glass does not alter the form of the separate fields.

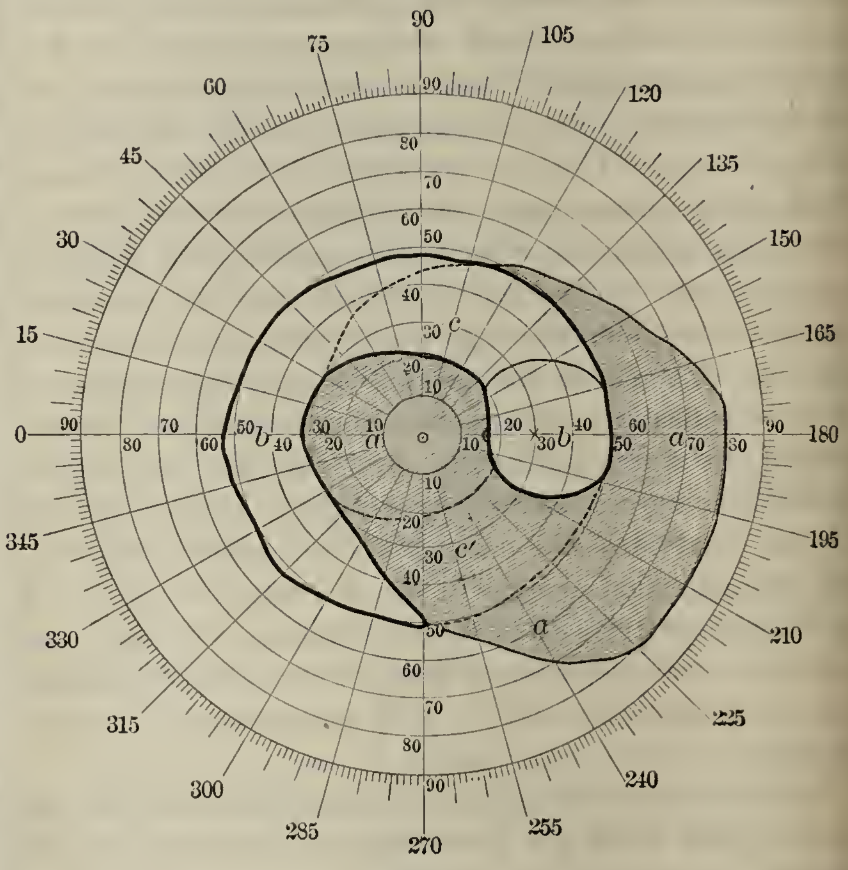

Fig. 2

Though the figures in the cases of divergent and convergent squint appear very different at first glance, it is evident, firstly, that in both cases the macular region of the squinting eye has exclusive control of its part of the field of vision, the non-squinting eye yielding up its function there entirely, and, secondly, that the most lateral part on the side of the squinting eye beyond the area of the normal field of the other eye is entirely allotted to the squinting one.

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* A blue spot was preferred, because the normal field of vision for this color is almost as large as for white.

The regularity of these results was such that these statements may be looked upon as general laws. There are but few exceptions to the first. When the angle of strabismus is so small that the macular regions almost cover each other. *In this case the macula of the squinting eye yields up its function entirely.* The effect of this upon the vision of the squinting eye was very evident. In a number of cases of very slight divergent strabismus vision had been permanently lost in the temporal part of the retina, including the macular region (those parts where exclusion had taken place). That this was not congenital amblyopia but due to the exclusion was beautifully illustrated in a case of a young farmer whom Hirschberger examined twelve years after he had been operated upon for a high degree of divergent strabismus. At the time of the operation the boy, then aged nine, had one third normal vision, as the hospital record shows. Twelve years later the strabismus was exceedingly slight, but central vision had been lost and the patient could only count fingers eccentrically. In this case it was evident that the great failure of vision was due to exclusion.

In cases of strabismus of variable degree *complete exclusion* could not be found in any part of the field, and diplopia was easily called forth. The same is true of periodic strabismus or of strabismus that has not become fully established. These cases form other exceptions to the laws stated above.

The projection of the strabotic eye was examined and found in accordance with the strabotic position; in other words, objects seen entirely by the squinting eye are "projected" in their proper positions in space and not displaced as in cases of ocular paralysis. This projection is not congenital, but depends upon the position of the eye, as is shown by changes which it undergoes when the relative position of the eyes is altered by an operation which either relieves the strabismus entirely or diminishes it. In this false projection lies the explanation of the peculiar diplopia often found after strabismus operations—a diplopia equal to the angle between strabotic and the subsequent position.

This strabotic projection is lost in a few days, or may last for weeks or even months, the eye finally adapting itself to its new position. It was found that the whole retina does not undergo this change at one time, but that the peripheral parts adapt themselves much more rapidly, so that a careful examination will sometimes detect various forms of projection in different parts of the field of vision for the same eye, and, in consequence, different kinds of diplopia.

Conclusions.—The facts brought out by the article are:

1. *Exclusion* of certain parts of the field of vision is not only possible in strabismus, but *takes place in the non-deviating as well as in the squinting eye.*

2. *The binocular field of vision of the strabotic is made up of parts of the field of each eye, these parts rarely overlapping at any point.*

3. *That part of the field of the squinting eye which corresponds with the macular region of the non-squinting eye is always suppressed, and, vice versa, that part of the field of the non-deviating eye which covers the part upon which the macula of the squinting eye is directed is likewise suppressed. There is a sharp line of demarkation dividing the macular areas of the two parts of the binocular field.*

4. *When the degree of strabismus is very slight, the macula of the squinting eye suppresses its image for the benefit of the macula of the other eye.* This is the only case where the macula of the squinting eye does not take any share in vision, and is an exception to No. 3.

5. *The degree of amblyopia depends upon the part that the macula of the squinting eye plays in binocular vision*, this being the explanation of the enormous differences in the strabotic amblyopia.

6. *The squinting eye learns to project images properly.*

The corollaries to be drawn are numerous. I shall only call attention to the importance of early operations, especially when the strabismus is of slight degree, and of perfectly correcting cases of high degree, the dangers of slight degrees as far as central vision is concerned being much greater. The importance of training in binocular vision subsequent to operating is likewise fully shown by these facts.

922 Madison Avenue.

OPERATIVE PROCEDURES IN THE BONE DISEASES OF CHILDHOOD.*

By V. P. GIBNEY, A. M., M. D.

It is with a certain degree of diffidence that I appear before the Surgical Society without a paper on Appendicitis or Suprapubic Cystotomy. The title I have chosen for some remarks this evening will suggest, I hope, to the members a rather important branch of the surgical art, and my object in calling your attention to this subject is to bring out a discussion on the management of the diseases and deformities incident to childhood. The most common form of disease in the class of subjects referred to is tubercular osteitis.

I am well aware that the general surgeon looks upon an orthopædic surgeon as a mechanician purely. If his appliances succeed in correcting deformity and curing disease, he is applauded. If the reverse occurs, we are spoken of in a patronizing way, and the lament is expressed that a surgeon was not consulted! While many operators speak and write quite sanguinely of their operative procedures in bone and joint diseases, there are a certain number, whose judgment is excellent and whose skill is unquestionable, who speak deprecatingly of such procedures. The writer of the present essay is convinced that the orthopædic surgeon should be familiar with operations on bones that enter into the formation of the joint. He is also convinced that the success of these operations depends largely upon the mechanical protection given to the limb or joint during the reparative process, and even long subsequent to the reparative process.

Our hospitals are so acute in their character that cases requiring a long course of treatment are seldom admitted.

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* Read before the New York Surgical Society, May 14, 1890.

When such cases are admitted, the aim is to operate as quickly as possible, to get healing of wounds with as little delay as possible, and then order a discharge to make room for others. It is admitted at the outset that operations performed at the proper time and in the proper manner contribute largely not only to the relief, but the cure of tubercular bone lesions in children. It is urged, likewise, that proper mechanical means, whether in the shape of plastic apparatus or steel appliances, should supplement these operative procedures; and it is also stated as a matter of fact that the element of time still plays an important rôle in the successful management of these cases. The difficulties which still attend the complete eradication of tuberculous foci, even under the most favorable circumstances, make rapid cures of comparative infrequence. Not only one, but many operations are required in many cases to obtain the maximum amount of benefit.

Disease of the Vertebræ.—In Pott's disease of the spine, which is the most common form of disease affecting the column, we have, as you all know, an inflammatory process in the body of the vertebra. We are not sufficiently advanced as yet to locate definitely the special body in which the lesion occurs. We know that the process is seldom confined to a single vertebra. For this reason we hesitate to explore the body of a single vertebra, and it is considered good surgery to wait until we can more definitely fix upon the number involved. Notwithstanding that many cases have been reported wherein good results have been obtained, the general impression is that the cases so reported will not stand a close investigation when looking for end results.

The procedure which is most generally adopted now in affections of the column is what is known as laminectomy, which has for its object the removal of the thickened tissue surrounding the spinal cord. The operation is done, therefore, for compression myelitis. While I have had no personal experience in this operation, I feel that it is often justifiable, and that a certain proportion of cases can be cured. The surgeon who becomes expert in dealing with the lamina is sure to get a certain number of brilliant results. Of course, he must select his cases. A child who has been paraplegic for a long time, and has had what is regarded as the best mechanical treatment—one who has had rest in bed without benefit—may properly be regarded as a subject for this operation. My own way of managing a case of Pott's paraplegia or compression myelitis differs somewhat from the ordinary routine, and neurologists do not all agree with me as to the value of potassium iodide. My plan, then, is to apply a solid plaster-of-Paris jacket, with a head spring, and not rest satisfied until I have a perfect fit. I begin at once with moderately large doses of the potassium iodide, given in Vichy or milk, and increase rapidly up to fifty or sixty grains, three times a day; sometimes I go beyond this point. I keep the patient in a recumbent posture, or in a wheeled chair, with the limbs not too dependent, and avoid lifting or handling as much as possible. A perseverance in this course of treatment for six months ought to yield good results. If a good result does not follow in this length of time, I put the patient in bed, with weight and pulley at each end, and continue the potash. Where they are old enough, I employ the Paquelin cautery two or three times a week, light strokes, over the spinous processes. Every case, I think, should have the benefit of this treatment. It takes a long time, sometimes a year or a year and a half, but the child is comparatively comfortable; it grows fat, as a rule; can be wheeled out of doors, and many excellent results have been recorded. If all this fails, then I should have recourse to laminectomy. The parts can be easily reached, and a careful amount of dissection will enable one to remove the pachymeningeal thickening that produces the constriction of the cord. The necessity for fixation after an operation of this kind still exists, and the value of the operation can be greatly enhanced by proper mechanical support. Before undertaking an operation of this kind, however, it would be well to have a neurologist go over the muscles with the current, and find how much degeneration exists and what muscles are liable to benefit by having the compression removed from the cord.

Osteitis of the Hip.—The operations for disease at this joint are as follows: Partial arthrectomy, excision more or less complete, curetting of sinuses, division of muscles and tendons for the correction of deformity, osteotomy, and amputation. Cases come to the attention of the surgeon in the first, second, or third stages. It is my belief that if a suitable apparatus can be applied to a patient in the first stage of the disease and proper attention can be given this for a period varying from one to two years, a cure will result. By cure I mean resolution of the inflammatory process with restoration of the function of the joint. The responsibility in such a case is divided about equally between the parent and the surgeon. The parent can not be, or is not, convinced of the importance of following closely every direction given. The surgeon has so little faith in apparatus that his instructions are not clear and well defined. He manifests this lack of faith in various ways. The patient is keen enough to perceive it, and hence the instructions, although given with the tone of authority, are not followed. The reason why operative procedures are not employed in this stage of the disease is the uncertainty in the mind of the surgeon as to the nature of the disease. He either is or is not convinced that the lesion is tubercular. He is too prone to accept the statement of the parents that not a trace of anything hereditary exists in either member of the family. He pins his faith to some trivial fall, without even taking the trouble of a cross examination. Authorities even speak of simple cases and tubercular cases. I have been for a long time convinced of the importance of calling every case of hip disease in a child tubercular. I do this in spite of numerous opinions given by surgeons and physicians who discuss from a theoretical standpoint the nature of the bacillus. I do it because it forewarns me, and, being forewarned, I am forearmed. Without entering into any dissertation on splints, what are best and what are worthless, I prefer to say a word about the principles governing the management of a case in this early stage. The aim is to protect the joint against every trauma. In order to do this, some form of perineal crutch or axillary crutch must be employed. Trauma may come in various ways. It may come from reflex spasm, rom a blow or bruise, a fall or a strain. The trauma in reases the hyperæmia about the focus of disease. It per nits the inflammatory area to extend until the joint is in olved more or less seriously. Knowing, as we do, pretty vell the history of tuberculosis, we must not expect resolu ion to take place in a short time. The reparative process s exceedingly slow. If the patient does not do well on a ortable splint, then he should be confined to bed with raction or with absolute immobilization. The value of tre hining the trochanter and neck of the femur has not been lly impressed upon the profession, and hence its employ ent has not been general. Furthermore, the friends of the atient are slow to accept any operative procedures upon a oint which is not deformed. Much valuable time is there re lost, and when the operation is done it is probably too te. I doubt very much whether it is worth while to waste me discussing this point.

Take, now, the case that comes to our notice in the econd stage, or the stage of deformity, with or without bscess, it matters little. The number of surgeons who pro ss to effect a perfect cure in a case of this kind are very w. Unfortunately, some of those who do make this state ent do not enjoy professional confidence. We have to ad it, therefore, that complete restoration of function is practi lly out of the question. The aim, then, is to conduct the se to an issue with the minimum amount of deformity and ith resolution of the inflammatory area. The adhesions hich have taken place as a result will generally remain. ore or less deformity will result, but a very good result n in many cases be secured with the proper use of appara s. It is also difficult to prevent the increase of deformity this stage, however great the co-operation at home. It a comfort to know, however, that the little patient can be ved from pain, can lead an out-of-door life, and can get ll with a trifling amount of inconvenience. It is in this ge that operations are of great value. If an abscess n be recognized in the gluteal region, coming apparently m the digital fossa, a good, clean excision can be made th happy results. Even a partial arthrectomy here yields od results. If the abscess, however, appears on the pos ior aspect of the thigh, on the anterior aspect, or in the ac fossa, an extensive operation, in my judgment, is not led for. If the operation is done, however, it should be de very thorough. My own observation on operations ne under the conditions named is, that sufficient after-pro tion is not afforded. The wounds are very nearly healed, fistulous track remains, the general health has improved siderably, the patient is put upon a pair of crutches or a tock" splint from the instrument-maker, and discharged. e result is a recurrence of the deformity, an extension of diseased area, and a very short limb.

Cases presenting in the third stage are the best for op tions. By the third stage is meant not only deformity, actual shortening of the limb, which shortening is due change in the relationship which the neck sustains to the ft, or a pathological dislocation. These are the cases of ients that usually enter hospitals; "*dernier ressort*" means ision or amputation. Generally the parts are riddled with sinuses, and it is next to impossible to completely remove all disease. From a pretty careful observation of such cases, it seems to me that the best plan is to postpone operations so long as the general health can be maintained, and so long as the patient is not suffering acutely. A good plan also is to curette sinuses, aim to reach the diseased foci one by one, eradicate by degrees, and finally, when the sinuses are all closed, do an osteotomy below the trochanter minor, a Gant operation, bring the limb down parallel with its fellow, get osseous union as soon as possible, protect the joint for some months afterward by a splint, then resort to a high shoe, and a good result is almost sure to follow. If amyloid degeneration threatens, it seems to me that amputation is preferable to an excision. It depends a great deal upon one's surgical judgment as to the propriety of an excision. If this operation fail, then an amputation can be employed.

Osteitis of the Knee.—The means we have at our disposal now for correcting a deformity at the knee enables us to conduct a case to a successful issue. If abscesses or sinuses exist, all surgeons, I think, are agreed that an excision is rarely called for. The operation of arthrectomy or partial arthrectomy with subsequent protection of the limb during a long period yields better final results than any excision. One reason that surgeons refrain from excision in young children is a knowledge of the growth of the bone at the epiphysis. They have long since learned that the bone is stunted in growth by removing the epiphysis. Another reason, which is not generally given, but which is of weight, is the tendency of the deformity to recur. A radical operation in the hands of a surgeon is thought to be all-sufficient. A month's or a few months' protection of the parts generally suffices. The case passes from under observation, and in the course of a year or several years the deformity has relapsed. This has occurred in a certain number that have come under my own observation. I have two cases now under treatment—one in the Out-patient Department and one in the hospital. The former is in a boy twelve or thirteen years of age, who had an excision done in one of the city hospitals when he was two years of age. The operation seemed to be thorough. He had the usual after-treatment, and seven years subsequently came under my notice at the hospital with a rectangular knee, both bones very much shortened, and his gait was most distressing. There was complete synostosis at the knee, and it was necessary to remove a large wedge-shaped piece of bone in order to correct the deformity. He is now wearing a posterior splint and an immense frame for a high shoe. The case in the hospital is that of a boy of five or six years, who has had several operations—one an excision and two partial arthrectomies—and his limb is not only greatly shortened, but bowed and much deformed.

There are several osteotomies for the correction of deformity about the knee, but these will suggest themselves to the surgeon, and individual judgment must be the guide. Osteotomy is usually for the correction of deformity.

The judicious use of plaster of Paris is a great help to us in such cases. The splint I employ after the deformity is corrected is that known as the Thomas splint, which means a perineal crutch.

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THE RELATION OF AMERICAN MEDICAL SOCIETIES TO SCIENTIFIC RESEARCH.

Of the several reasons that have interfered with the prosecution of original research by American physicians, aside from the fast disappearing obstacle of insufficient educational equipment, probably the most potent have been what some are pleased to term the essentially practical nature of the American, that causes him to look askance on any work not promising a pecuniary return; and a lack of money necessary to purchase apparatus, drugs, and the other paraphernalia requisite for any special research.

Many of our physicians have made valuable contributions to medical science by investigations that have required considerable expenditure not only of time but of money as well. Undoubtedly there are some medical men in this country that would to-day be glad to work a solution of some physiological or pathological problem if supplied with the necessary appurtenances for such work.

At a few of our universities a limited number of scholarships might be made use of by recent medical graduates to pursue a course of special investigation; but what seems to be needed are means whereby a qualified man, in a village or town that has no university, can employ his leisure and gratify his tastes and inclinations in conducting some scientific research. Some State medical societies offer a prize for the best essay on any professional subject that is the result of original investigation; and for several years a portion of the Boylston prize fund has been thus offered. But prizes are not the means by which the desired end may be attained.

The recent report of the Scientific Grants Committee of the British Medical Association has suggested the desirability of our State and national medical associations considering the adoption of a similar plan to theirs. During the past year that association has spent, in money advanced to physicians for the expenditures necessary in making special investigations, a sum equal to twenty-four hundred dollars. In different parts of Great Britain investigators have been studying various problems, such as the inoculation of carcinoma and sarcoma on the lower animals from man; the vaso-motor functions of the cerebral cortex; animal heat, and also the invention of a suitable heat-measuring and heat-recording apparatus for accurately estimating the precise heat product of animals; an investigation of the constitution of certain pathological effusions; anthrax albumose; the coagulation of egg and serum albumin, vitellin, and serum globulin by heat; the proteids of urine and albuminuria; whether the muscles of adduction and abduction of the vocal bands have cortical cerebral centers; the ptomaines in connection with typhoid fever; the localization of the heat-producing cerebral function; the action of morphine and a number of its derivatives; the influence of bile on pancreatic digestion; the comparative digestibility of different starches; and the chemico-physical character of certain proteids. Possibly none of these investigations would have received a prize if offered in competition to any society. And yet they are all of value in tending toward the ultimate solution of various problems; and they indicate the possibility of larger fields of usefulness for our numerous American societies than any that they have yet entered upon.

SURGEON PARKE AND THE MEDICAL PROFESSION.

Dr. Parke, whose brilliant services with the Emin Pasha Relief Expedition have excited the admiration of the civilized world, was on the 6th of June last presented by the editors of the *Lancet* with a massive silver salver, and on the evening of the same day was the guest of a brilliant representative gathering of the members of the medical profession, who had assembled to do him honor at a dinner at the Criterion Restaurant. Sir Andrew Clark presided. Mr. Jonathan Hutchison, Sir James Paget, Sir Prescott Hewitt, Sir Joseph Fayrer, Sir Spencer Wells, and many other distinguished members of the profession were present. After several speeches suitable to such an occasion had been made, Surgeon Parke, amid great applause, rose to respond and made a very modest speech, in the course of which he said that he would remind the company, if they were not already tired of hearing about Africa, that it was just three years and three months before that Mr. Stanley started from England to bring relief to Emin Pasha—not to bring him away from Africa, but to bring him relief. With a force of about eight hundred strong, they started from the mouth of the Congo on March 18, 1887. The shortest time any of them spent in the forest was one hundred and sixty-two days. The pygmies or dwarfs they met stood about three or four feet high, had tiny hands and feet, with fairly good features, and were bright and intelligent. They were covered all over with down, such as is seen on the cheeks of a boy of eighteen or ninetee in this country. The European provisions that the party took with them were finished within a month. The two bottles o brandy which each had were also soon exhausted. They ha exactly the same food as the natives—bananas, with occasionally a goat a week divided among six or eight.

The Europeans survived much better than the natives did Of the two Europeans who died, one died from climatic cause and the other was murdered. Emin Pasha was qualified i medicine by a German degree, of which he was very proud He spoke twenty-two languages, of which he could write an read thirteen. When they started he (Surgeon Parke) took th precaution of vaccinating the majority of the men, and whe the epidemic of small-pox broke out only four were attacke by the disease, and none of them died. On the other hand, tl camp-followers, who had not been vaccinated, took the disea in a bad form and died in great numbers. After a three year march across Africa they reached Zanzibar with Emin Pasha. He wished to place on record the great admiration he and his brother officers felt for their illustrious leader, Mr. Stanley.

MINOR PARAGRAPHS.

RECURRING MULTIPLE OSTEITIS AMONG PEARL WORKERS.

In a recent number of the *Centralblatt für Chirurgie* there is an article by Dr. Levy on the hitherto little-known disease which attacks workers in pearl. The first formal observations upon the phases of the affection were made in Vienna, when some twenty-five cases were reported. The author has seen five cases during the past four years in Berlin. These had occurred among the younger workers. After from four to six years of such employment a form of osteitis would appear involving principally the maxillary bones. The symptoms were found to subside with a change of occupation, but would reappear in some other locality upon resumption of the pearl work. In one of the cases the patient had suffered recurring inflammation of the scapulæ, and in another the lower half of the femur had become involved, exclusive of the epiphysis. Dr. Levy is of the opinion that the affection is caused by the pearl-hell dust which fills the air during the grinding process and nsinuates itself into the patient's system. Just how it operates hen is an open question pending further elucidation.

LOCAL TUBERCULAR INFECTION.

In a recent number of the *British Medical Journal* report is made of an accident which befell Dr. Gutzman, of Berlin, and which may serve as a warning to surgeons and pathologists to e careful in the handling of tuberculous tissues. On February 9th, while Dr. Gutzman was holding an autopsy in the case of patient who had died of acute miliary tuberculosis, the nail f his right middle finger was slightly raised from the matrix. pricking sensation was experienced at the tip of the finger, ut no wound could be seen. The hand was thoroughly disinected in a sublimate solution and alcohol, and the incident orgotten. On March 20th the end of the finger became painul, a small abscess being found under the nail. This was pened, and the pus removed, on being examined by Ehrlich's ethod, was found to contain three tubercle bacilli. The cavy was cleaned out and disinfected with alcohol. So far there as been no lymphangeitis or glandular involvement and no rise temperature. Dr. Gutzman regards the case as an example local tubercular infection.

PROFESSIONAL AND COMMERCIAL CONFIDENCE.

The August number of the *Virginia Medical Monthly* asks we will not retract our statement in regard to a certain New ork commercial house, that it "still deserves and receives the nfidence of the medical profession." This is a journal of edicine, not one of finance, and financial transactions are not oper subjects for its comments, unless they involve medical ints, and we should not have alluded to our contemporary's ticle on the house in question but for the reason that it cited etter published by us from which it seemed to draw concluons that we did not and do not look upon as warrantable. The *onthly* now makes its own accusation against the firm, appartly relating to business matters. With such matters, as we ve said before, we have nothing to do, and we have no referce to them when we speak of a house as deserving and reiving the confidence of the medical profession, but to the character of its dealings with the profession, and that fact our readers doubtless understood; hence we have no retraction to make.

SUBBENZOATE OF BISMUTH IN THE TREATMENT OF SOFT CHANCRE.

A recent issue of the *Medicinisch-chirurgisches Central-Blatt* contains an article by Dr. E. Finger, of Vienna, in which are given the results of his therapeutic endeavors with subbenzoate of bismuth as a topical application in the treatment of soft chancre. The compound is described as being made by heating nitrate of bismuth with potassium nitrate and sodium benzoate. The precipitate, subbenzoate of bismuth, is collected on a filter, washed with water and alcohol, and dried. The author reports its use in sixteen cases. Some stinging sensations follow its application, but these are not severe. Six or eight applications were sufficient to secure a healthy surface, the dressing being made twice in twenty-four hours. Dr. Finger seems to consider the subbenzoate a valuable substitute for iodoform and the more violent cauterizing drugs where they are contraindicated.

MICROBES IN HAILSTONES.

Truly in the midst of life we are in death. A recent number of the *British Medical Journal* states that Dr. Fontin, a Russian observer, has demonstrated the existence of pernicious microbes, of terrestrial origin, in hailstones. He has found that the water produced by the melting of the hailstones used in the experiments yielded an average of 729 bacteria to the cubic centimetre. The fungi of yeast and mold were absent, but nine different bacteria were discovered, including the *Bacillus mycoides*. As the abiding place of this bacillus is the earth, the fact that it and its pestilential congeners can be carried to the heavens and returned here with hail, rain, and snow, and directly convey infection, is another of the discoveries which, while adding perchance to the glory of science, show the blissfulness of ignorance.

PRESERVALINE.

In the bright lexicon of commerce this is the name of one of a number of preparations sold to milk-dealers to enable them, by adding it to their milk, to palm off stale milk on the community. It is supposed to consist mainly of boric or of salicylic acid. Ten per cent. of the milk furnished by dealers supplying Brooklyn is said to have had one of these substances added to it. The persons concerned profess that the milk is not made injurious by this procedure, but it is very obvious that it may become injurious under certain circumstances, and the State Dairy Commission is quite right in declining to leave that question to the milkmen's discretion. Certainly the community has a right to be protected from surreptitious drugging.

HÆMATURIA AND GARDEN RHUBARB.

Several correspondents of the *Lancet* have recently reported some unusual urinary troubles consequent upon eating ordinary rhubarb, or pie-plant as it is occasionally called. The symptoms are frequency of micturition, hæmaturia, dysuria, and lumbar pains. This effect of the rhubarb seems dependent upon the use of hard water for drinking purposes, the oxalic acid of the rhubarb combining with the calcium in the water and forming numerous small crystals of oxalate of calcium that—it is suggested—lacerate the uriniferous tubules in passing through them. Similar consequences have been noted after eating gooseberries and acid apples; and an explanation of obscure urinary troubles in localities where hard water is used is thus afforded.

THE TOXICITY OF BILIRUBIN.

Dr. G. de Bruin, in an Amsterdam thesis, arrives at the following conclusions regarding bilirubin: That, as Bouchard affirms, not only is it a poison to the organism, but, moreover, it has properties more toxic than the other biliary constituents, and is a more intense poison to the heart of the frog and probably also to the mammalian heart; that it occasions disorders in the parenchyma of the kidneys; and that it is probably a poison to the central nervous system.

THE TREATMENT OF INCIPIENT INSANITY.

In a June number of the *Lancet* commendatory reference is made to the steps taken by the West Riding County Council in its effort to check, if possible, the increase of insanity in that county. The approved arrangement at the West Riding Asylum affords an opportunity for free medical consultation to those suffering from mental or nervous diseases, especially in the early stages. The attempt thus to treat insanity in its incipiency has been so far successful that it has been decided to extend the system to other asylums. This subject has of late received serious attention at the hands of the New York Neurological Society, the aim being an early adoption of some plan which will afford opportunity for the study and treatment of insanity in its earlier forms.

ANTIPYRINE IN ERYSIPELAS.

Dr. Favre, of Fribourg, says the *British Medical Journal*, has reported an unusually severe case of erysipelas showing the high curative value of antipyrine. A woman, aged thirty years, suffered from facial erysipelas accompanied by somnolence, vomiting, constipation, and high fever. In spite of applications of cold, carbolic acid, ichthyol, corrosive sublimate, strips of adhesive plaster, etc., the morbid process gradually extended over the scalp, neck, chest, upper extremities, abdomen, and buttocks. On the tenth day the administration of antipyrine was begun, with the result that the febrile symptoms were at once decidedly reduced, the eruption soon ceased to spread, and the patient's subjective state was greatly improved.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 5, 1890:

DISEASES.	Week ending Aug. 5.		Week ending Aug. 12	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	35	7	40	5
Scarlet fever	49	6	28	2
Cerebro-spinal meningitis	6	5	3	2
Measles	171	13	109	8
Diphtheria	69	22	36	11
Varicella	0	0	1 .	0

Westphal's Successor.—It has been announced repeatedly from Berlin that Dr. Grashey, of Munich, would succeed Professor Westphal. For some reason this appointment has not been consummated, for we are now informed, through the *Lancet*, that Dr. Friedrich Jolly, professor of mental therapeutics at Strassburg since 1873, has been chosen for the place. Dr. Jolly is about forty-six years of age, and has a reputation for original research in his department and for literary ability.

Dr. William Nelson Blakeman, of New York, died on Sunday, the 10th inst., in the eighty-sixth year of his age. The deceased was a native of Connecticut and a graduate of the Yale Medical College. From the time of his graduation, in 1832, until within three or four years of his death he was engaged in general practice in New York.

The Honorary Degree of LL. D. has been conferred by Dartmouth College on Dr. Edward Cowles, the superintendent of the McLean Asylum in Massachusetts.

Change of Address.—Dr. William A. Valentine's new number is 45 West Thirty-fifth Street.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 9, 1890:*

Wales, P. S., Medical Director. Ordered in charge of the Museum of Hygiene, Washington, D. C.

Bright, George A., Surgeon. Ordered to the U. S. Steamer Constellation.

Mackie, B. S., Surgeon. Detached from the U. S. Steamer Constellation and ordered to Naval Hospital, Philadelphia, for medical treatment.

Derr, E. Z., Surgeon. Ordered to the U. S. Steamer Minnesota.

Waggener, J. R., Surgeon. Detached from the U. S. Steamer Minnesota and ordered to the U. S. Steamer Kearsarge.

Moore, A. M., Surgeon. Detached from the U. S. Steamer Kearsarge and granted three months' sick leave.

Letters to the Editor.

THE SUPRA-ORBITAL PRESSURE TEST OF MALINGERING.

U. S. S. Pensacola, *August 1, 1890.*

To the Editor of the New York Medical Journal:

Sir: It may be of interest to the readers of the article by Dr. J. T. Eskridge, published in this Journal of July 26th, to know that supra-orbital pressure in cases of true epilepsy has no effect. Supra-orbital pressure has been practiced frequently by me while house surgeon to the Chambers Street Hospital, New York, in cases of malingering, hysteria, alcoholic coma, and delirium tremens, with remarkable success. I published in the *Record* for August 27, 1887, an article on this subject, and agree with Dr. Eskridge's account of his successes. Could you refer me to the observation of "a German physician" upon this same point? He was mentioned in Dr. Eskridge's article.

Lute L. von Wedekind, M. D.,
Assistant Surgeon, U. S. Navy.

ARSENITE OF COPPER IN DIARRHŒA.

240 West Thirty-fourth Street, New York, *August 4, 1890.*

To the Editor of the New York Medical Journal:

Sir: I wish to call the attention of your readers to the value of arsenite of copper in the treatment of diarrhœa, dysentery, cholera morbus, and cholera infantum. I have not lost a single patient with cholera infantum since I began to use it. It is given largely diluted with water, and is not at all disagreeable to take. I think it was Dr. John Aulde, of Philadelphia, who first advocated its use, about two years ago. I have used it about thirty times within a few weeks without a single failure. It is put up in tablets of $\frac{1}{100}$ of a grain, one of which is to be dissolved in four ounces of water, and a teaspoonful of the solution (containing $\frac{1}{3000}$ of a grain) taken every fifteen minutes for the first hour and then every hour until relief is obtained. For children proportionally smaller doses are used. I feel sure that arsenite of copper may be made to reduce the mortality by cholera infantum as bichloride of mercury has reduced that by diphtheria.

Branch Clark, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twelfth Annual Congress, held at Baltimore, on Thursday, Friday, and Saturday, May 29, 30, and 31, 1890.

The President, Dr. John N. Mackenzie, of Baltimore, in the Chair.

The Relationship between Bulbo-nuclear Disease and Obscure Neurotic Conditions of the Upper Air-passages.—The President read a paper on this subject. (See page 176.)

Dr. F. H. Bosworth was invited by the Chair to open the discussion. He said: I regard the case as very interesting, but I can not agree with the author that its bulbo-nuclear nature has been clearly established. It seems, on the contrary, that the evidence presented would establish the diagnosis as neuritis and not bulbar disease.

The President: Of what nerve?

Dr. Bosworth: Of the trifacial particularly. This, however, is merely a suggestion. If it is bulbar disease, we should decide what form. Is it a clot? or a thrombus? Is it softening? or a tumor? Bulbar disease is not enough; we should be able to state its nature as well as its place. To my mind the case is not of this kind, but may be a neuritis.

Dr. D. B. Delavan: This subject in general is perhaps the most interesting one in the laryngology of to-day, and is certainly the newest and least understood. The fact that eminent diagnosticians disagree, and that they advance ingenious theories of pathology only to have them overthrown by post-mortem investigation, shows that we are only on the threshold of the matter. Ever since Gottstein, following the example of Hughlings Jackson, called attention to the frequency with which laryngeal paralyses of central origin were due to bulbar lesion, there has been observed a tendency to refer all cases with similar symptoms to bulbar disease.

Garel has lately reported two cases in which the laryngeal paralysis was produced, not by bulbar disease, but by a cortical lesion. While it has been fully established that many cases are due to bulbar lesion, it is also possible that the same symptoms may depend upon a central disease of other than bulbar origin.

While it may not be possible to distinguish these cases now, future observation will enable us to determine more accurately the diagnosis between them. A paper, by a well known pathologist, upon the laryngological relations of tabes, or locomotor ataxia, is soon to appear, in which that subject is very thoroughly and philosophically considered, the writer especially dwelling upon the subject of laryngeal crises in tabes. The conjoined study of such cases by laryngologists, neurologists, and pathologists is particularly desirable.

Dr. Bosworth: I fail to recall any well-authenticated case of laryngeal paralysis in which the symptoms were due to cortical lesion; any case of central disease where it was shown post mortem that the cause of the paralysis was not in the bulb and was in the brain. In the noted case referred to by Dr. Delavan, the reporter has had reasons submitted to him for making a change in his diagnosis since that case was published. Gottstein's cases attracted attention to this subject, but he did not go much further than Hughlings Jackson, who, from a series of clinical observations, concluded that the source of the paralysis of the laryngeal muscles was in the medulla.

Dr. Delavan: In reply to the last remark, physiological experiments upon monkeys, dogs, and cats have clearly shown that a cortical center for the larynx does exist in them; if it is present in the lower animals, as has been conclusively proved, it is proper to assume, by analogy, that such a center also exists in man. Even if it has not yet been fully demonstrated by post-mortem examination, this failure may be owing to faulty methods and imperfect investigation. The center undoubtedly exists. There are cases in which laryngeal paralysis has occurred, and in which no bulbar lesion was found after careful search, where the lesion was evidently in the brain. In the cases I have reported the existence of a bulbar lesion was demonstrated; there are other cases on record where there was no such lesion found, but where, on the other hand, there was distinct lesion of the cortex.

Dr. Bosworth: Psychical centers for the larynx in the cortex I am willing to admit, but not motor.

The President inquired what experiments were referred to as those upon which Jackson's views were based.

Dr. Bosworth: Jackson's views were not based upon experiments, but upon cases. Some years ago, in a paper upon this subject, the speaker discussed this question, and the whole subject was gone over. There are practically but two forms of laryngeal paralysis—abductor paralysis and recurrent laryngeal paralysis.

The President: In closing the discussion, I have only one thing to say. Dr. Bosworth seems to doubt the diagnosis of bulbar disease in the case, and believes it to be one of neuritis of the trifacial nerve. How trifacial neuritis could produce the symptoms recorded I am at a loss to know. Unless the trifacial was distributed to the throat and back of the neck, the œsophagus, tongue, and other organs, the dorsal region and lower extremities, as well as to the face, loss of its function could not produce the phenomena present in the patient. The symptoms as recorded correspond closely with those presented by others as symptomatic of bulbar disease, and I can only conclude that he must have failed to hear the notes of the case as I read them.

(*To be continued.*)

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN MEDICINE.

Meeting of April 11, 1890.

The President, Dr. Atthill, in the Chair.

Massage.—Dr. Kendal Franks read a paper on this subject. He began by a historical sketch to show that this method of treatment was not a novel one, that it dated back to the earliest times, and was used among all the nations of the world. It fell into disrepute among physicians and surgeons, because it was allowed to fall into the hands of charlatans and quacks; but that in recent times it had been revived, and had been taken up and practiced by leaders in the profession in every country, and, owing chiefly to anatomical and physiological advances, massage had secured a position in therapeutics from which it could not well be removed. He then explained its physiological *modus operandi*, and showed that the effects it produced could scarcely be brought about by other means. He quoted cases to show its power in neurasthenia, and quoted one case to show that even when massage was followed immediately by a fall in the temperature of the body, this was not always a contra-indication to its use. Another illustration showed how its effects were interfered with by unsanitary conditions, but that a good result immediately followed a change of lodgings. General neuralgic pains, accompanied by sciatica on one side, with a history of fourteen years, was cured by, firstly, nerve-stretching of the sciatic, and, secondly, by general massage. An aggravated case of insomnia, with great depression, existing on and off for years, yielded completely to a course of this treatment. The use of massage in certain paralytic affections was dealt with, and the cases in which it was likely to succeed were indicated. These were illustrated by the history of a case of infantile-paralysis, and by a case of complete paraplegia of both legs from the hips down, which followed a severe attack of malarial typhoid fever contracted in Cyprus. The treatment, which extended over the best part of a year, was followed by complete cure. The speaker advocated a modified system of massage in cases of gout, by which he had found that a fresh attack of the disease was long delayed, and immediate relief was speedily attained. In surgical cases local massage was frequently useful, and produced astonishing results in recent sprains and fractures. In a case of Pott's fracture, massage was employed eighteen days after the accident, and the patient was enabled to walk with ease, with a freely movable and painless joint twenty-two days later. A boy, aged fifteen (who was exhibited at the meeting), with a transverse fracture of both bones of the leg, was able to raise the leg from the bed without assistance on the twentieth day, and was able to walk about with a light support on the leg on the twenty-sixth day.

Dr. Cox believed, from what he had read of the experience of Weir Mitchell and Playfair, that the importance of massage, carried out in detail, combined with high feeding, rest, and isolation, could not be exaggerated; but, of course, bodily exercise achieved better results than massage in stimulating respiration and the circulation of the blood.

Dr. Ormsby said he had had considerable experience with massage since 1880, and he was fully sensible of the utility of that method of treatment in suitable cases; for instance, in the case of a young lady, who for nearly three years occupied a recumbent position suffering from hystero-paralysis, he had adopted massage as part of the Weir-Mitchell treatment, and it had proved highly beneficial, after almost every other form of treatment had failed; but there were many cases in which hysterical young ladies, when the treatment was abandoned, relapsed. Massage of itself would not suffice. He had more faith in Weir-Mitchell's treatment, which combined massage with seclusion, rest, electricity, and dietetics. While regarding massage as a valuable agent in suitable cases, he was satisfied that it was not a cure-all, and that from its indiscriminate use it was desirable the treatment should be placed on a scientific basis. He held that massage in surgery for recent fractures was wholly out of place, and he could not understand how any surgeon of experience would adopt it in a compound fracture or a Pott's fracture. In the case of the valet referred to it might have been that there was no fracture at all. It was not uncommon to find instances of resident pupils putting up accidents as fractures which, on examination by the visiting surgeon, proved not to be fractures.

Dr. Tobin mentioned that in the northern parts of India he had seen massage adopted to put horses into marketable condition with the minimum expenditure of material. Balls composed largely of ghee and sugar were shoved into the horse's throat, and some hours afterward the animal was massaged at the particular parts where development was desired. The masseur with gloved hands pounded the flesh at those parts; but the horse was never exercised, and so the required development was brought about in the cheapest way. Although the horses were bought in large numbers for the artillery, he did not consider the animals were in condition to "go," their lungs and heart not being in a corresponding state of development. Hence he thought it was advisable to combine exercise with massage. Indeed, remembering how old the practice of massage was, it seemed anomalous that medical men should have abandoned it for their patients, while they kept it in force for their horses, which always throve when well groomed.

Dr. Wallace Beatty said he had had experience of a remarkable instance in 1884 of the benefit of massage. An army medical man who had been in India had got intermittent fever and had lost the power of digestion, so that he had been unable to take anything but milk, and that in small quantity. Any other food had produced heartburn and made him miserable. A Dublin physician, who had treated him for two or three months without doing any good, was of opinion that he had malignant disease of the stomach. At length the patient had come to him, and he had seen him along with Dr. Head. Various things had been fruitlessly tried. The patient was losing flesh—from ten stone he had gone down to seven, and his tongue had been constantly furred. As a last resource, he had proposed to try massage; and the patient, having consented, had been placed in the Adelaide Hospital, where his brother, who was a strong man, was also accommodated in order to massage him. In nine days his tongue had got clean, he had gained a stone in weight, and from that out his progress to recovery had gone on till he was able to resume duty in Dublin.

Dr. M. A. Boyd said he had had some five or six cases treated by massage, and two of these with such success as to make a great impression upon him. One was that of a lady, aged fifty, who had had sciatica of two years' standing, for which she had been blistered, fired, and punctured, and received hypodermic injections of morphine, and even electricity, without avail. At last he had tried massage, and in three weeks the pain had disappeared. The lady had remained well for two months, when she had got sciatica in the opposite side. After three weeks' treatment by massage the pain had disappeared altogether. The other case was one of alcoholic neuritis, which, having resisted treatment by electricity, had been ultimately cured by massage. Dr. Franks had omitted to notice that very important group of paralytic cases—namely, paralysis depending on neuritis.

Dr. Alfred Smith said he had found massage beneficial in cases of prolapse of the uterus, and of accumulations of the pelvis, the products of cellulitis, as he had already detailed in a communication which he had read before the Obstetrical Section.

Dr. Heuston observed that he had employed massage with signal success in a case of traumatic paraplegia. A soldier in the Egyptian campaign had been occupied at earthworks which had fallen in, burying him in the *débris*. When dug out he had been found to be insensible, and upon being restored he had had paraplegia. He had been sent to the base hospital at Cairo, and thence he had been invalided home to Netley, where he had been kept for a year, till he could move about on crutches. Having been discharged, he had gone home, and after a couple of years he had been able to go about with the aid of sticks. Then he had suffered from his bowels and suppression of urine. Having taken him into the Adelaide Hospital, under massage treatment he had recovered, and had been able to walk about in two months, when he had been discharged cured.

Dr. Ninian Falkiner suggested the utility of massage i amenorrhœa to bring on the menstrual flow.

Dr. Franks replied. Massage would be found beneficial i infantile paralysis, owing to the great developmental power i the child, while it was not so likely to succeed in arresting progressive atrophy in the adult. Dr. Ormsby's strictures on th use of massage in fractures were founded on theory only There was no error in diagnosticating the fracture, and he wa satisfied that the results described had been achieved by massage, which he believed would be the great treatment of th future for fractures. He did not refer to compound fractures in which he would hesitate to employ massage; nor could h speak positively of the treatment in certain oblique fractures, c fractures about the neck of the thigh bone. But what he claimed for massage was that it induced rapidity of union without deformity by preventing adhesions from forming around joints. As regarded the interesting cases referred to by Dr. Smith, he had himself advised massage in a case of retroflexed uterus, for which a pessary was used. The pessary was removed, and, massage having been tried, the uterus became normal, and there was no need to put in a pessary again.

SECTION IN STATE MEDICINE.

Meeting of April 25, 1890.

The President, Dr. Foot, in the Chair.

The Infectious Diseases (Notification) Act, 1889.—Dr. Cosgrave read a paper on this subject and its extension to Dublin. Breach of confidence might apply to voluntary notification, but once notification was required by the Legislature, there was no breach of confidence, but the notification was put on the same footing with a certificate of cause of death or of successful vaccination. Dr. Cameron, of Leeds, had shown that voluntary notification had only dealt with from one case in five to one case in three, and then often after the power of doing good was gone. The small fee was objectionable from a medical man's point of view, but a guinea fee would be decidedly objectionable to the rate-payers. The act came into force in Dublin on March 1st, but had not yet been acted upon. When it was, its success would depend upon the skill and tact of the sanitary officials and upon the hearty co-operation of the medical men. The sanitary officials ought to be skilled and to be required to pass an examination under some independent body before being appointed. The act was already in force among three fourths of the population of Great Britain, and the medical officers of health had generally reported in its favor.

The President said it was one thing for the Legislature to lay down a scheme for discovering the causes of disease, tracking its sources and stamping it out, but it was another to carry out that scheme successfully; and, in his opinion, the workability of compulsory notification would depend on the general practitioners. He missed from the act the salutary provision of insisting on having observation wards for the reception of cases of doubtful diagnosis, such as were at present attached to some of the general hospitals. It would, he thought, be actionable if a person erroneously notified as suffering from diphtheria or scarlatina were bundled off to a hospital for infectious diseases and there got one of those infectious diseases.

Dr. William Moore was glad to learn from Dr. Cosgrave's personal experience that compulsory notification was not in the slightest degree irksome. He regarded the system as being of enormous advantage. The probability of the advantage of the system in epidemics of small-pox or scarlatina was indicated by the fact that in one outbreak forty cases were traceable to the existence of scarlatina in a milkman's shop. He deprecated the shabby treatment of the profession by the Legislature in awarding the miserable pittances of 2*s.* 6*d.* and 1*s.* as fees.

Dr. Grimshaw, Registrar-General, said that the principal difficulty turned on the question of removal to hospital of the cases notified without risk. There must always be the difficulty of mistaken diagnosis; and hence it was incumbent on the health authorities of the city to see that proper observation wards were provided for the reception of doubtful cases. Indeed, he considered it would be little short of criminal neglect if such wards were not provided. The idea that people could not get two infectious diseases at the same time was dead and buried long ago; and, therefore, he thought the leaders of the medical profession should press upon the authorities the necessity of making provision for the difficulties of mistaken diagnosis. He did not think there was any grievance in having to notify infectious diseases. As to the physician disclosing the patient's confidence, once compulsory notification became the law of the land, the question of confidence was at an end. Every medical officer of health whom he had spoken to testified to the diminution of disease as the result of notification.

Dr. R. Montgomery thought that the opinion of the Section, as indicated in the remarks of the Registrar-General, should be communicated to the Dublin Corporation and the Board of Guardians, so that observation wards might be provided for doubtful cases.

Dr. Doyle was of opinion that the interests of general practitioners would suffer under the act unless they were enabled to follow their cases into hospital. Even at present there were many cases of persons well able to pay who, by going into hospital for operations, were lost to the general practitioners. While he was not an opponent of compulsory notification, he would devise some means of avoiding the injustice of depriving general practitioners of their pay cases.

Dr. Cosgrave, in reply, said the public health authorities were bound to provide proper accommodation where it did not exist. In Cork Street Hospital observation wards were worked with great care to prevent the mixing of different infectious diseases. It was the fever wards in general hospitals that were so dangerous. He considered the smallness of the fee fixed by the act a necessity, and suggested that those who did not care to take it might let it go to the Medical Benevolent Fund.

The State Medicine Qualification.—Dr. Grimshaw read a paper on this subject.

The President was of opinion that there ought to be two qualifications, a higher and a lower, in state medicine—a lower grade for the common-sense practical man, with a good nose, and knowing something of the rough diagnosis of infectious disease, and the higher for those who would be called on to advise in the weighty matters of social science.

Dr. William Moore held that the humblest in the community were entitled to the best advice; and he thought that the majority of the examining bodies had accepted the suggestions of the General Medical Council.

The Boarding-out System for the Insane.—Dr. Conolly Norman read a paper on the boarding out of pauper lunatics. While asylums were a matter of necessity for a large number of the insane, they could never be made homes. Therefore such lunatics as could live outside asylums would be happier and better, if under suitable supervision, than those who were incarcerated in public institutions for life. Economic and other considerations were of less consequence than the advantage that might accrue to the insane under favoring circumstances and under a well-worked system of boarding out. The speaker briefly considered the working of the Gheel system and the Scotch boarding out. He very strongly condemned certain features in Gheel—the boarding out of dirty and semi-dirty patients, the boarding out of patients in estaminets, the use of restraint, and the too great liberty accorded to some better-class patients. The Scotch system afforded a better model. He laid down the conditions necessary to render patients suitable for boarding, and the restrictions and safeguards under which such a system must be worked. He differed with the Scotch authorities in objecting generally to the boarding out of epileptics. He referred to the special enactments of the Scotch law on this subject, and briefly to Mr. Trevelyan's Irish bill, which did not become law, one object of which was to found a boarding-out system in Ireland.

Dr. William Moore said the increase of lunacy in the County Antrim was occupying the attention of a committee as regarded the disposal of harmless lunatics, and the provision of further accommodation to meet the increase. The boarding-out plan suggested a means of providing for the harmless lunatics without incurring the cost of building a big asylum.

Dr. R. Montgomery said he had had experience of the success of the boarding-out system.

Dr. Doyle mentioned that the son of a patient of his own had spoken of Gheel in the highest terms from personal experience. The charge was £40 a year in his case.

Dr. Conolly Norman, in reply, said there was no doubt that Gheel had done very good work; but there was too much freedom there on the one hand, and too much restraint on the other, and so it was not up to his ideal of the treatment of lunatics. He did not approve of sending lunatics to workhouses, as being institutions with all the faults of the lunatic asylums and very few of an asylum's virtues.

SECTION IN SURGERY.

Meeting of March 28, 1890.

The President, Mr. Meldon, in the Chair.

Cicatricial Stricture of the Œsophagus.—Mr. Kendal Franks read a paper embodying the histories of four cases of cicatricial stricture of the œsophagus. The first case was that of a girl, aged twenty, the details of which were published in the *Medical Press and Circular* in 1882. The treatment employed in this case was forcible rupture of the stricture, with the subsequent daily passage of bougies The treatment occupied over two months. Now, at the end of eight years, she was perfectly well. The second case was that of a lady, aged thirty, who came under treatment in December, 1883. The history of dysphagia extended over nearly fourteen years. The treatment employed was gradual dilatation with bougies, and it occupied nearly seven months. She had enjoyed perfect freedom from dysphagia ever since. A bougie was passed for her about twice a year. The third case was that of a lady, aged forty-three, who came under treatment in June, 1886, for dysphagia, dating back for nearly fifteen years. The treatment adopted was electrolysis, with the occasional passage of bougies. The treatment was employed on sixteen separate days. She had had no difficulty in swallowing since then. The fourth case was that of a railway guard, aged sixty-eight, who came up for treatment on the 17th of December last. The history of dysphagia went back seven or eight years. Two strictures existed—one four centimetres below the upper end of the œsophagus, the other four to six centimetres above the lower end. The treatment adopted was immediate rupture of the strictures, the passage of bougies daily, and electrolysis. The treatment occupied a month. The patient gained twenty-eight pounds in weight in less than three months, and could swallow his food with ease.* The passage of a large bougie was employed every second day still by Dr. Ford, of Waterford, under whose care the patient was at present.

The speaker pointed out the remarkable contrast in the duration of the treatment between the cases in which electrolysis was employed and those in which it was not, but that further evidence was required to ascertain if this contrast were constant.

Mr. Hamilton said cases of stricture of the œsophagus were by no means common, and one of the most mysterious problems in surgery was as to how they took place at all. Of the three methods of treatment submitted for consideration in Mr. Franks's paper, he would adopt that of gradual dilatation, or, that failing, then of electrolysis, rather than the method of sudden and rapid dilatation by means of the instrument exhibited.

Mr. W. Thornley Stoker concurred with Mr. Hamilton. The treatment which he had been in the habit of using was that of gradual dilatation, and he condemned that of internal œsophagotomy.

Mr. Edgar Flinn said he saw the second patient whose case had been described. She was suffering from an ordinary catarrh, but she was in perfect health, save nervous debility, being apprehensive of a return of the stricture.

Mr. T. Myles, without questioning the accuracy of Mr. Franks's diagnosis, would feel hardly justified in assuming that all the cases described were cases of purely fibrous strictures. He, too, agreed with Mr. Hamilton as to the inadvisability either of cutting operations on the œsophagus, or of forcible dilatation, as its walls were thin, unresisting, and easily penetrable, even with the point of a comparatively blunt instrument.

Mr. Franks, in reply, said the instrument which he used, dilated to its fullest extent, would not injure any normal œsophagus, as being within the size of the normal œsophagus in health. As regarded diagnosis, the history of his cases differed entirely from that of neurotic cases in which the dysphagia was intermittent; and, as a rule, in œsophageal strictures the diagnosis could not be certain without passing a bougie. He did not think he had been mistaken in his diagnosis, and he had no doubt that the cases were cases of cicatricial or fibrous stricture. The electrolysis facilitated the use of the bougies.

A Rare Case of Congenital Form of Ranula.—Dr. Edgar Flinn said, in a paper read before the Moscow Medical Society, by Dr. N. Muller, on Ranula in New-born Children, he stated that in the foundling hospital at Moscow four or five cases of congenital ranula had been observed during a period of seven years in about eighty thousand children. And the London Medical Record, of December, 1877, mentioned that up to that period there were only two known instances of this affection on record—one published by Dubois in 1833, and a second of more recent date by M. Lombard. Mr. Bryant recorded two cases, both probably, he stated, congenital, and Sir W. Ferguson one.

The case of ranula under notice resembled that class of tumo noticed by Fairlie Clark; it presented some peculiar and interesting features, which were deemed worthy of recording, mor especially as the growth was noticed on the second day afte birth, and the subject was now nearly twenty-nine years old The patient was admitted into St. Michael's Hospital, Kingstown, under Dr. Flinn's care. He presented a peculiar appearance; at first sight he gave one the impression that he was suffering from acute glossitis. His mouth was wide open, and it wa with great difficulty he could articulate; the tumor very nearl filled the entire cavity of the mouth. The tongue was pushe upward and far backward, and could with difficulty be felt wit the tip of the finger. The growth also projected beneath th jaw into the mylo-hyoid space, and assumed an elongated shap In this situation, being about five to six inches in length, it wa hidden from view by the patient's beard, and was as large as good-sized orange. The projection into the cavity of the mout commenced to cause inconvenience about eight months prior the date of his admission, and for over a month he had expe enced great difficulty in swallowing; he daily essayed to g some solid food down, but it was quite an ordeal to do so, as required a good deal of manipulation to get the food to t back of the mouth. There was a continual dribbling of saliv and he was unable to lie down in a recumbent position for fe of suffocation. On examining the tumor, fluctuation was qui evident in the mass in the mouth, but in the neck it partook a more solid nature. The treatment that suggested itself on admission was to aspirate that portion of the mass within t mouth, which was done at once. Nearly fifteen ounces of fl of a creamy nature was drawn off, and gave him great reli he could speak more distinctly, but found difficulty in movi his tongue forward. For a day or so the tumor rapidly filled again in the mouth, and was aspirated a second and a third time, large quantities of a similar fluid as before being drawn off. The mass now on the neck became softer, and deep-seated fluctuation could be detected. It was then decided to lay open the tumor from the neck, which was done by a deep incision, and which gave vent to some five ounces of a thick, brown, pultaceous matter, offensive in odor. The cavity was scooped carefully out and a drainage-tube inserted, and, after a day or so, there was some suppuration and a free discharge of pus. Subsequently the patient left the hospital freed from the unsightly mass that had disfigured him for so many years. The case was considered of interest from the fact of this tumor being so long in existence, the patient being now nearly twenty-nine years old.

Mr. W. Thornley Stoker exhibited the photograph of a girl, aged four, who had a congenital tumor occupying the tongue and floor of the mouth to such an extent that she could not shut her mouth since her birth. Having cut into it, he found it was a cyst—a ranula—filled with a thick fluid of abominable odor. He drained it by a large drainage-tube passed transversely through the floor of the mouth below the tongue, but no sooner was the tube taken out than the sac filled again with pus. At length he drained it from the floor under the tongue, and it healed with ease and rapidity. Owing to the fact that the child had never been able to close the mouth, the molar teeth struck each other, while the upper and lower incisors were an inch distant, the jaw retaining its abnormal position. He proposed to put an elastic apparatus on at night, with a view to raise the front of the jaw by gradual pressure.

Mr. Hamilton also related an instance of the value of treatment by a bold external incision for ranula, emptying the tumor by means of a free incision along the base of the jaw.

Mr. Flinn, in reply, regretted that the urgency of his case at the time prevented him from getting the patient photographed.

Special Articles.

LETTERS TO MY HOUSE PHYSICIANS.

By WILLIAM OSLER, M. D.,

BALTIMORE.

Letter III.

Munich, *May 27, 1890.*

Dear R.: At Zurich we found Professor Eichhorst just about to go off for the day, but he very kindly took us through wards full of instructive cases, among which were very many of pneumonia, which he said was almost epidemic. There are special pavilions for contagious diseases, and we were very much interested to see, for the first time, the cases of phthisis isolated, a plan which had been carried out here for some years. Perhaps in old hospitals with insufficient ventilation this precaution may be necessary, but the experiments of Cornet show that the bacilli are not always present in the dust of wards in which there are patients with phthisis. The question is one attracting a great deal of attention in Germany, and I send you a paper by Professor Finkelnburg, of Bonn, in which he advocates strongly the erection of public sanatoria for consumptives. Another pamphlet on this subject by Cornet—*Wie schützt man sich gegen die Schwindsucht?*—will also interest you. The main point which he makes is the prevention of the desiccation of the sputa by the stringent use of spit-cups and the proper disinfection of the same. Professor Eichhorst's clinical laboratories are large, conveniently arranged rooms, two of which are especially equipped for bacteriological and chemical work. The latter is in charge of a young chemist, not a medical man who makes reports on regular forms. This seems to me a great advantage, particularly when there are elaborate and complicated analyses to be made. Here, too, we found the system of hydrotherapy in use in the treatment of typhoid fever, and the mortality had been reduced to the extremely low point of five per cent.

Professor Klebs was away, but one of his assistants showed us the pathological laboratory. We were also very disappointed not to have seen Professor Forel, who was at the Montpellier festival. We spent a delightful day with Professor Gaule, the physiologist. He first demonstrated some of his remarkable histological specimens, particularly a series of the frog's testis at different months of the year, prepared by his method, which you will find in any of the recent histological manuals. Not only in the testis, in which, in certain animals, we should expect marked seasonal changes, but in other organs, such as the liver, he holds there are variations in the constitution of the cell protoplasm throughout the year. Mrs. Gaule, an American lady and a well-known histologist, is an active co-worker in the microscopical department of the laboratory.

I was still more interested in the brain of a dog which had had a remarkable experimental history. The center for the left foreleg was first destroyed, with the result of a paralysis, which gradually disappeared. Then the corresponding center in the right side was destroyed, with the effect of producing paralysis of the forelegs on both sides and loss of intelligence, so that the dog lost knowledge of his tricks and was, in fact, like a puppy. He regained power in the legs and was gradually re-educated, with, however, great trouble, by one of the lady students of the laboratory. Then a portion of the brain on the right hemisphere behind the left-leg center was removed, with the result of paralysis of the leg, after which the animal was killed. The experiment is chiefly of interest as showing substitution of function somewhat similar to that which took place in Barlow's celebrated case of aphasia in which the patient, after recovery from the effect of an embolus on the left middle cerebral, gradually regained the power of speech, which was again lost in a second attack, when an embolus plugged the artery of the right side.

In lecturing, Professor Gaule uses the projection lantern very frequently, and has it so arranged that the image is thrown from behind the lecture-room upon a glass screen behind the movable blackboard. I have never seen microscopic objects so beautifully projected, and the technique was carried to such perfection that even the movement of the ciliated epithelium could be seen from all parts of the room.

Munich is the largest of the three Bavarian schools, and I was particularly anxious to see the arrangements of the medical clinic, which were reported to be unequaled in Europe. Unfortunately, we came in the midst of the Whitsuntide holidays, when the lectures had ceased and the laboratories were deserted. Professor von Ziemssen (whose name is one of the most familiar to the profession of English-speaking countries) was at home, and very kindly showed us the clinical institute, which is attached as a wing to one side of the main hospital building. It was erected in 1878, and when I tell you that the cost was over $50,000 you will have some idea of its extent. The ground floor is devoted largely to outdoor medical work—the ambulatorium, as it is called—and to rooms for the assistants and docents, with suitable arrangements for demonstrations and classes. The second floor has the professors' private rooms, the library, a room for the records, the auditorium, a large chemical laboratory, and a series of four rooms communicating with each other for microscopical, bacteriological, and electrical work. The institute is unusually rich in apparatus for experimental research, and going from room to room and listening to the description of treasures of all sorts for clinical investigation, I realized, as never before, what the Queen of Sheba felt when she said, after seeing the treasures of Solomon, "that there was no more spirit in her." The files of the *Deutsches Archiv für klinische Medicin* for the past twelve years show a record of good work of which the director of the institute may well feel proud. The hospital notes are very carefully kept and pigeon-holed, first by months, then at the end of the year bound loosely according to the disease. With an index of the names and another of the diseases, any case can in this way be referred to in a few minutes. Of models we were shown a number illustrating the alterations in position and size of the stomach—some in plaster, others in papier-maché. Dilatation of this organ is very much more common here than with us, owing to the enormous quantities of beer consumed. Some of the men connected with the breweries are said to drink from twelve to twenty litres daily. Voit makes the statement that the average consumption of beer in Munich is two litres and a half per capita daily. It is cheap and good, a litre costing only twenty-four or twenty-six pfennigs; and when one sees the crowded state of the beer-houses at all hours of the day, Voit's estimate appears very moderate. The influence of the beer is shown in another way—viz., in inducing hypertrophy of the heart, upon the frequency of which in Munich and on its association with beer drinking Professor Bollinger has recently written. Von Ziemssen thought that it was the combination of hard work with heavy drinking that rapidly raised the aortic blood-pressure and was so dangerous. The cases were met with chiefly in those whose occupations necessitated great muscular exertion, such as draymen and porters. Though less common, these cases are by no means rare in our large cities among men who work hard and who at the same time drink heavily.

Within the past ten years Munich has gradually acquired a thorough drainage system, and we were shown a set of charts in course of preparation for the Berlin Congress, illustrating the remarkable reduction in the number of cases of typhoid fever. In certain sections of the city, formerly much affected, the disease is now almost unknown. The chart showing the hospital experience during this period follows the same falling curve. Munich is now one of the healthiest of the continental cities, whereas it formerly had an exceptionally high death-rate, particularly from zymotic diseases. The medical wards are in the part of the hospital adjoining the clinical institute, but, as the building is very old, the arrangement of the rooms is not very satisfactory. A new surgical department is nearly completed. Professor von Ziemssen lives in a separate house within the hospital grounds, so that he is not far from his work and can readily, as he expressed it, stand like a colossus with one foot in the wards and the other in the laboratory. It is a pleasure to think that one who has done so much for the profession is so well provided for and has everything that a teacher or investigator could desire or deserve.

We took advantage of the vacation and went to Ober-Ammergau to see the Passion Play. The crucifixion scene is frightfully realistic, every detail represented, even to the piercing of the side, from which the blood—an aniline fluid, I suppose—flows freely. A problem, much discussed of old, why Christ should have died after so comparatively short a time upon the cross seemed to my mind to receive its solution in the mental and physical exhaustion consequent upon the trials of the preceding twenty-four hours. There is a remarkable book dealing with this subject by Dr. Stroud, *Theory of the Physical Cause of the Death of Christ*, in which he argues that it was due to rupture of the heart; but this would be highly improbable in a vigorous, healthy man of thirty-three.

In looking over the Passion Play literature, we find a long account of the performance in 1830 by Oken, the anatomist, and it was extremely interesting to find that this description of the play as given sixty years ago might have been written of this year's representation.

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M. D.

The Practical Means employed to provoke Premature Labor (Boissard, *France méd.*, Jan. 10, 1890).—The object of all the agents which are used to excite premature labor artificially is to provoke uterine contractions, and all means which are used should permit the least possible deviation from normal labor. Among the agents which may be used are: 1, uterine douches; 2, the introduction of dilating bodies into the uterus; 3, the introduction of exciting bodies; 4, the introduction of bodies which are both dilating and exciting. The dilating or exciting bodies are represented by tents of sponge or laminaria, bougies, bags, or balloons. Uterine douches were frequently used a few years since. Such a method should be rejected because it is slow, unreliable, and dangerous. Many serious results have been recorded in connection with its use. Of the tents it is difficult to render those of sponge aseptic, but those of laminaria may be made quite aseptic by dipping them for twenty-four hours in an ethereal solution of iodoform. It is easy to introduce them, but they are liable to slip out unless secured by a vaginal tampon. Perforation of the membranes is an infallible way of bringing on labor, but it is very slow, and favors vicious presentations. The use of the bougie is also slow as to its results; it may be inefficacious and may be attended with accidents.

Of all the excitant and dilating methods, the author gives preference to the instrument of Tarnier or to that of Ribes. The former is a rubber balloon and will usually do its work in from twenty to twenty-four hours.

Ribes has also devised a balloon 30 to 33 centimetres in circumference and holding 640 grammes of liquid. It will dilate not only the neck, but the entire vulvo-vaginal canal. Two facts have been noticed in connection with the use of this dilator—rapidity of delivery and constancy of results, the average duration of labor in observed cases being twelve to fourteen hours. The material from which it is made is thin, and it may easily be introduced with the forceps. The possible inconveniences in its use are the necessary rupture of the membranes, the breaking away of the placenta, procidentia of the limbs and cord of the fœtus, and the displacement of the fœtus. One or another of these accidents occurred in one third of the cases treated by Ribes's method, though mother and child were saved in every case. The author concludes as follows:

1. Of all the means which have thus far been devised for producing premature labor, the balloons of Tarnier and of Ribes are the most efficient.

2. In spite of the inconveniences or difficulties which may result from the introduction of a large balloon into the uterine cavity, the instrument of Ribes may be depended upon to give the most rapid and constant results.

Extra-uterine Pregnancy (Pinard, *Concours*, Dec. 28, 1889).—Three cases are narrated in which operative procedures were resorted to, all of them ending in recovery. This question is propounded: An extra-uterine pregnancy has proceeded almost to term before it is recognized the fœtus is dead—what is one to do? One can not advise indefinite expectancy. It would be dangerous to reckon upon the transformation of the fœtal sac into lithopædion, for such a change is of rare occurrence. If intervention is determined upon, when should it take place? Most authors caution against waiting for the explosion of accidents which attend suppuration. On the other hand, should one operate as soon as possible after the death of the fœtus? The author agrees with Kaltenbach, Fraenkel, Litzmann, Werth, and Maygrier that one need not operate immediately after the death of the fœtus unless there are special indications therefor. Six weeks after the death of the fœtus the circulation within the fœtal sac ceases, and then it will be safe to operate; earlier than this there is great danger from hæmorrhage. There are two methods of operating—by elytrotomy, the cyst being opened through the vagina, and by laparotomy. The first should be preferred if the cyst dips deeply into the pelvis, the bladder and uterus being displaced laterally and the placenta not being implanted in the lower part of the cyst. In other cases laparotomy should be practiced. If laparotomy is performed and the cyst is found to have extensive adhesions to the intestines and bladder, it is better to suture the cyst to the edges of the abdominal wound and then open it and extract the fœtus. If the placenta does not come away readily, it is better to leave it *in situ* and allow it to come away spontaneously. The cord may be removed at its placental insertion, and the cavity may then be irrigated with a warm saturated solution of β-naphthol. The wound should then be closed except for a space six or seven centimetres in length, through which the placenta may protrude. Two large drainage-tubes may then be placed in the lower angle of the wound, and the latter be covered with carbolized gauze. Over this an abundance of cotton should be placed, and the entire dressing should be secured with a pressure bandage. The cavity of the cyst will contract rapidly, and in fifteen or twenty days it will have disappeared. In two months the entire wall of the cyst will have disappeared.

Hot Irrigations subsequent to Parturition (Deipser, *Jour. de méd.*, Feb. 9, 1890).—There are obstetricians who think that if a labor has not called for repeated examinations or operative treatment there is no necessity for antiseptic treatment of the genital passages, on the ground that no irrigations are indicated if there is no suspicion of infection. But it is better that the accoucheur should act as if accidents were about to happen after labor, and take the necessary precautions. Should he wait three or four days until accidents have occurred, he is liable to reproach. What agent should be preferred for irrigating purposes? Sublimate has given rise to accidents with some, though it has given excellent results to others. Carbolic acid is no longer popular with physicians or midwives. Creoline seems to meet with general approval at present, and should be used immediately after labor and for the six succeeding days in solutions with a temperature of 50° C. The temperature of the water in itself opposes the multiplication of germs. The injection current will wash away blood-clots from the uterine mucous membrane and any other foreign matter which may be there. As antiseptic substances are ordinarily used, the injected solutions are at the temperature of the blood. This is not sufficiently elevated and may prove dangerous by favoring relaxation of the uterus. If the injected solution has a temperature of 50° C., it will produce irritation and uterine contraction. One can therefore use these injections either to stop post-partum hæmorrhage or to increase the efficiency of uterine contraction. A portion of the water used in vaginal irrigation will penetrate the uterus. It will do no harm, but, on the contrary, will favor the production of uterine contraction, and will also assist in dissolving and washing away fragments of tissue which should have been expelled in the course of labor.

The Cæsarean Operation and its Clinical Results (Martin, *An. de Obst., Gin. y Ped.*, November, 1889).—The following conclusions are reached by the author:

1. One should insist, as a hygienic measure, upon the medical supervision of all cases in which, by reason of pelvic disproportion, it may be necessary to resort to Cæsarean section. In such cases it may be feasible to resort to premature artificial labor, with the birth of a viable fœtus.

2. Among modern operations the Cæsarean section should be esteemed of primary importance in its varieties—the Sänger and the Porro-Müller operations.

3. Among all parturient women with contracted pelvis, in whom exist indications for operative procedure, preference should be given to the Cæsarean operation above the different methods of embryotomy, as it is more humane and offers better results for both mother and child.

4. The Cæsarean operation should be performed after dilatation of the cervix and prior to rupture of the amniotic sac, such a plan offering the best prospects of success.

5. Listerian methods should be followed with all care whenever the Cæsarean operation is performed.

A statistical table is published with this paper, which shows that seventy per cent. of the improved Cæsarean operations have resulted successfully.

The Use of Anæsthetics by Midwives (Budin, *Concours*, Feb. 15, 1890).—A report upon this subject was recently read before the Paris Academy by the author. The rôle which has heretofore been played by midwives in the propagation of puerperal fever was first referred to, and then the question would naturally arise, What antiseptic, if any, should be placed in their hands? for epidemics of puerperal fever are more or less prevalent in the practice of midwives, and antiseptics are the proper means for attacking the disease. The first suggestion would be that boiled water should be used, but this would not be sufficient to destroy germs, even supposing that the midwives were sufficiently careful in cleansing their hands, forearms, and nails. Hence it would seem necessary that midwives should be allowed or required to use antiseptics. There are many antiseptics, however, and it is expecting too much that midwives should be acquainted with their varying power and the different ways of using them; besides, many of them consider such agents useless, and would not employ them unless required to do so. Their use should therefore be simplified as much as possible, and the commission which took the matter into consideration at the request of the official authority recommended that only one antiseptic be given to midwives, and that this should be as efficacious as possible without exposing the midwives or patients to intoxication or cauterization. It should also be cheap and easily kept and carried. The author considered in succession the merits of boric acid, creolin, naphthol, carbolic acid, and sublimate, the last of which was preferred, with the objection, however, that in certain doses it was toxic and might injure the patients. In answer to this objection, it may be said that very few people are excessively sensitive to sublimate when used in the form of vaginal irrigation, and the author, in an extensive experience with it since 1882, has seen nothing severer than an occasional attack of gingivitis or erythema. Of the sixteen fatal cases which have been reported as resulting from its use, the influence of sublimate in some of them is questionable. In fourteen of them intra-uterine injections had been made with solutions of 1 to 1,000 or 1 to 2,000; in only two of them had there been no intra-uterine injections. In the latter there had been extensive rupture of the perinæum, and irrigation with a 1-to-1,000 solution of sublimate was practiced during the operation of suturing it. In some of the cases there had been nephritis, or profound anæmia fram hæmorrhage, or retention of the placenta within the uterine cavity, and thus intoxication from mercury had been favored. Intra-uterine injections should not be made by midwives, and, should fever or any other abnormal condition follow the parturition, the services of a physician are at once to be procured. Compared with carbolic acid, it may be said that the effect of sublimate upon the new-born is far more favorable.

The Action of Hot Water on the Uterus during the Pregnant and Puerperal States (Pinard, *Jour. de méd.*, Feb. 9, 1890).—This subject includes the use of hot water during pregnancy, during labor, during delivery, and during the involution of the uterus.

The ancients forbade the use of baths during pregnancy from fear of abortion or premature labor. Kiwisch proposed a method to do away with this traditional fear. Investigations made during the last few years have shown that water at 45° to 50° C., while acting as an energetic stimulant to smooth muscular fiber, can not produce contractions sufficient to interrupt the course of pregnancy. If injections of hot water are used in such a way that traumatism is not produced, there need be no fear of provoking labor pains. Hence the elytritis which may exist during pregnancy can and ought to be treated by irrigation with medicated hot solutions.

Hot injections, whether intravaginal or intra-uterine, have a marked effect upon the contractility of the uterus during labor. The latter have a more decided and intense action than the former. Hot water as an oxytocic does not modify the physiological characters of the uterine pains. The contractions which follow the use of vaginal irrigation have a more marked amplitude and longer duration, but are not more frequent in the majority of cases. They are more efficacious, however, and shorten labor. They should, therefore, be used in cases in which the period of dilatation lasts longer than the average. Especially should they be used in cases in which the death of the fœtus and the rupture of the fœtal sac demand a rapid expulsion, and this rule applies as well for cases of abortion as for those of labor at term. Hot irrigations have the same action during the period of delivery as during the precedent period of labor. To their oxytocic action is added the hæmostatic. If to a woman who is attacked with uterine hæmorrhage one gives an intra-uterine injection with water at 46° to 50° C., the uterus will contract energetically and by and by the water will return from the uterus uncolored. Of course the uterus must first be relieved of all clots. Hot water also exercises a decided effect on the uterus during the period of involution, the latter process being hastened by its use. The metrorrhagia which may occur at this period will yield to irrigations with water at 45° C.

Alcohol in the Treatment of Puerperal Fever (Martin, *Ctrlbl. f. Gyn.*, 1889, No. 31).—This paper contains an account of eighteen cases, —fifteen of septicæmia and three of pyæmia—in which alcohol was administered as a means of treatment in accordance with the rules recommended by Breisky and Conrad in 1876. All of the patients were seen in private practice and had been treated locally or by the internal use of antipyretics before they came under the author's observation. When seen by him they were in a very bad condition, the prognosis being very unfavorable. Alcohol was prescribed for all of them in the form of brandy, rum, champagne, burgundy, etc. In all cases the alcohol was well tolerated. Of the eighteen patients, thirteen recovered, three died from puerperal infection, one of the other two from phthisis, and the other from pulmonary œdema. Martin believed that the benefit of the alcohol consisted rather in the stimulation of the heart than in the reduction of the temperature. The alcohol was used as an adjuvant to local treatment and to the use of antipyretics, and it was found that it could be used in large quantities without fear of intoxication, and in conjunction with milk, eggs, etc. Martin concluded that alcohol was a most valuable remedy in puerperal fever which could be used in desperate cases without fear of disagreeable secondary results.

In the discussion of the paper Schülein stated that he had used alcohol in large quantities in the treatment of puerperal fever and with good results.

Gottschalk referred to the free use of alcohol in the treatment of five cases of puerperal fever under his observation; four of them were cases of septicæmia and one of pyæmia. In all the cases there was diffuse peritonitis. After having once disinfected the genitals thoroughly in these cases, local treatment was suspended, the treatment being limited to large doses of alcohol and nitrogenous foods. The alcohol was given in the form of brandy, 500 to 1,000 grammes being given in the course of twenty-four hours. To allay vomiting, cocaine was given with good result. In one of the cases baths were administered, resulting in the lowering of the temperature and improvement of the appetite. In another patient the alcohol produced intoxication, with loss of consciousness and delirium. It was then dispensed with, strong coffee was administered, an ice cap was placed upon the head, and the bad symptoms disappeared, the fever and peritonitis gradually yielding.

Olshausen did not think it had been clearly demonstrated that alcohol was essential in puerperal septicæmia, especially since he had seen severe cases of the disease cured without its use. In cases in which there was no diffuse peritonitis one could not say whether a cure was due to the therapeutic agent employed or to the fact affection was mild in character, and, if there were diffuse peritonitis, alcohol was of as little value as all other remedies. In the last-mentioned disease baths were unsuitable, for every movement of the patient was attended with pain. In cases of prolonged or chronic pyæmia with persistent elevation of the temperature baths might be used, and alcohol would supply sufficient force to enable the patient to resist the disease. He did mean to discourage the use of alcohol in cases of acute puerperal septicæmia.

The Microbiology of the Cervical Canal in Endometritis (Solovyoff, *An. de Obst., Ginecop. y Ped.*, February, 1890).—The author's investigations were made in connection with Slavjansky's clinic to determine whether the genital canal in women contained pathogenic microbes. Experiments were made upon forty-five women and the following conclusions were reached:

1. In the great majority of cases of endometritis, but not in all, there are micro-organisms in the cervical canal.

2. In cases of acute puerperal endometritis there are pyogenic microbes in the secretions of the cervical canal.

3. In the secretions of chronic cervical endometritis inoffensive microbes are far more frequently found than morbific ones.

4. The clinical investigation of cases of chronic endometritis will not enable one to distinguish cases in which the microbes are pyogenic from those in which they are not.

5. Animals which are inoculated with pyogenic microbes show, in some cases, morbid conditions in which the virulence of the microbes has not been attenuated.

6. It must be admitted that there is a possibility that these microbes will infect the organism when the conditions favor their penetrating the tissues.

7. As in some of the cases in which there are pyogenic microbes there exists the possibility of pregnancy and of parturition at term, and as at this time and during the puerperal period there may be conditions favorable to infection, we must admit the possibility of infection by microbes existing in the genital canal prior to this period.

8. External antisepsis and antisepsis of the individual do not offer a positive assurance that the parturient and puerperal conditions will be aseptic.

Ectopic Pregnancy (Tait, *Ctrlbl. f. Gyn.*, April 12, 1890).—Tait prefers the above name to the old one, extra-uterine pregnancy, because the so-called interstitial form, as well as that form which occurs in one horn of the uterus, is not strictly extra-uterine. The author thinks that the fertilization of the ovum takes place, as a rule, in the uterus, and that it can only attain to those portions of the genitals which are situated higher up when the normal ciliated epithelium of the tubes is destroyed. The office of this epithelium is not only to propel the ovum forward into the uterus, but also to prevent the entrance of the spermatozoa into the tubes. Hence only when, as a result of some precedent morbid process, the ciliated epithelium is injured or destroyed, can spermatozoa get into the tube and fertilize an ovum. The mucous membrane of the tube then having become similar to that of the uterus, the ovum is enabled to imbed itself in it. Many cases give evidence that a desquamative salpingitis has been present. In some cases the condition becomes suspicious if the woman has been sterile, or if several years have elapsed since her last pregnancy. Tait doubts the possibility of a true ovarian pregnancy, but, if it should occur, its course and danger would not differ materially from those of tubal pregnancy.

Pregnancy may take place in either of the three divisions of the tube, the interstitial, the middle, or the infundibulum. The interstitial form is rare, Tait having seen but one case and knowing of but six in England. Its course is always fatal. One does not know anything of its existence until rupture occurs, which may not take place before the sixth month, and usually does not before the fourth month. The loss of blood is then so great that death usually results in a few minutes; the rent is also a large one, being 10 or 12 centimetres long. The only means of saving life would be the performance of hysterectomy, and the prognosis would be bad even if one were promptly at hand to perform it. Rarer still is the variety in which there is development at the infundibulum, only three specimens of this variety being in the Hunterian museum. With regard to the third variety, in which the middle portion of the tube is involved, it is important to consider the nature of the peritoneal covering. The distensibility of the tube is very limited, and it becomes still less distensible owing to the spongy nature of the placental structure. Rupture does not take place later than the twelfth week. According to the location of the placenta will the rupture take place into the abdominal cavity or between the layers of the broad ligament, and this fact furnishes a means of differentiation between two different varieties. In the first variety the hæmorrhage will be persistent, in the second it will usually cease. There will be many more favorable conditions in the latter than in the former variety, for death will usually end the scene before the physician can arrive. As to diagnosis, the two varieties of rupture and hæmorrhage are easily distinguished. With the bleeding into the abdominal cavity there is only an illy defined feeling of fluctuation, and in Douglas's space there is a soft swelling. With the intraligamentous hæmorrhage, on the other hand, there is a circumscribed round tumor in the pelvis, which may reach to the navel, and perceptibly fluctuates. The vaginal walls and the whole pelvic cellular tissue are as hard as a board. In severe cases the pressure of the extravasated masses of blood will cause a stricture of the rectum which may require months for its healing. If we bear in mind the general symptoms of the early stages of pregnancy, as well as the irregular but frequent hæmorrhages which occur with this condition, we will be able to determine the diagnosis. Subsequent rupture of this hæmatocele will produce phenomena which may lead one to suppose that the hæmorrhage has been direct from the vessels into the abdominal cavity. Should one puncture such a hæmatoma in the broad ligament, the pressure derived from the blood would be removed and the hæmorrhage would begin anew. In about one tenth of the cases the hæmorrhage is slight, the blood is quickly absorbed, the fœtus develops to the fourth or fifth month, then dies, and then is absorbed or undergoes suppuration. Then comes perforation into the rectum or bladder, with discharge of pus and fœtal bones. The fœtus may, however, go on to complete development, the peritonæum being enormously distended. The peritonæum may be raised in the course of the development of the fœtus from the anterior wall of the uterus, the bladder, and the abdominal parietes, nearly to the navel. In such case one should operate and endeavor to obtain a living child. Such children may be well developed, and Tait has rescued three in this way. Electricity may be used if tubal pregnancy can be diagnosticated before rupture has occurred, but he believes this is seldom possible, and he has never been able to do it. He has always been summoned when rupture has occurred and the patient is in collapse. If at such a time the hæmorrhage is intraperitoneal, electricity will not arrest it. If it is intraligamentous, then perhaps no interference will be necessary. If the result would be fatal without interference, then one must act in accordance with simple surgical principles—that is, seek for and tie the bleeding vessel as soon as possible.

Obstetric Operations in the Practice of Midwives (Ahlfeld, *Ctrlbl. f. Gyn.*, April 12, 1890).—The question as to the operations which midwives should be allowed to do is one which should be discussed among physicians, and rules should be laid down which the midwives should not transgress. For the future it seems to be agreed, at least in certain parts of Germany, that midwives may manage breech presentations under certain restrictions—that is, they may superintend the birth of the arms and the head. It is possible that this is too great a concession, as the statistics of midwives' practice show that the number of still-born infants in breech presentations is quite large. The delivery of the breech and the feet should not be attempted by midwives. Dragging upon the presenting feet, and so hastening the progress of labor, may seem proper enough to a midwife, but it may be an element of danger by bringing the head into an unfavorable position, or by producing severe lesions of a cervix which is not yet sufficiently dilated, or by inducing too great constriction of the child's neck and producing its death. The only condition which would justify the midwife in taking this step would be profuse hæmorrhage, with placenta prævia and a well-dilated os. Even in such cases it would probably be better that the midwife should merely bring down a foot, so that the breech of the child might act as a tampon for the bleeding area.

Still more important is the question as to the wisdom of allowing midwives to perform internal version and removal of the placenta. In the author's section of country the statistics of midwives' practice show that version has seldom been done by them. This is partly owing to their hesitancy in undertaking such an operation, and partly owing to the ease of obtaining skilled professional assistance. The author's opinion is that such work should not be done by midwives, and the operation is usually easier if the midwife has not complicated matters by attempting to perform it. There are exceptions, of course, in very isolated places, where skilled physicians can not be had. Midwives should also not be allowed to separate the placenta from the womb. This may result in a few deaths from hæmorrhage, but probably far fewer than if midwives were allowed to use their own discretion in such matters.

Investigations concerning the Quantity of Hæmoglobin in the Blood during the Last Months of Pregnancy and during the Puerperium (Reinl, *Deutsche med. Zeitung*, No. 27, 1890).—The author's investigations were made upon fifty-one hospital patients who were pregnant, and were compared with investigations upon ten healthy non-pregnant women. The spectrophotometer was used for the determination of the hæmoglobin, and the blood used for experimentation was diluted one hundred and fifty times with a ten-per-cent. solution of sodium carbonate. The hæmoglobin in the healthy non-pregnant women was found to be 12·24 per cent. In ten of the pregnant women the average hæmoglobin content was 12·99 per cent. In the remaining forty-one the average was 10 per cent. In order to ascertain the relation between the hæmoglobin and the red corpuscles, the latter were counted in the ten non-pregnant women and found to average 4,797,300 to the cubic centimetre of blood. This number was exceeded in twenty-one of the pregnant women, the average being 5,156,000. This high average pertained to pregnant women who were in favorable conditions of life up to the time when they were received at the hospital. The investigations showed conclusively that those women who were well nourished—that is, received an abundance of albumin during their stay in the hospital—always experienced an increase in the quantity of albumin as well as in the red corpuscles in their blood. Chloro-anæmic conditions were not met by the author in this investigation; but simple anæmia in pregnant women may easily develop under the influence of social and individual conditions, and there is always a lessening in the number of red corpuscles *pari passu* with the lessening of the hæmoglobin. The author disputes the theory that pregnancy is to be considered in the light of an anæmia-causing condition. It was always demonstrated that those who came into the hospital in an anæmic and hungry condition lost their anæmia under the favorable dietetic and hygienic conditions to which they were there subjected. Simple oligochromæmia does not exist during pregnancy, but it does exist in combination with oligocythæmia. In thirty-seven cases which were investigated subsequent to the parturition, the hæmoglobin was found diminished in twenty-one, in two it was unchanged, and in fourteen it was increased. The changes in the number of red corpuscles in these cases were for the most part co-ordinate with the changes as to hæmoglobin. The lessening of the hæmoglobin, which was observed during labor in twenty-one cases, was changed to an increase in seventeen of the cases on the sixth or seventh day of a normal puerperium. The red corpuscles increased similarly in number. The foregoing results are not offered as absolutely typical, since the influence of the hospital may have had some bearing in the case.

The Prognosis as to the Probability of Pregnancy following the Conservative Cæsarean Section (Torggler, *Prag. med. Woch.*, No. 13, 1890).—In comparing the results of the conservative Cæsarean section with those of such operations as perforation and the induction of premature labor, one must regard not only the facts as to mortality and morbidity, but also the question of subsequent fertility, which, according to some authors, is very unfavorably influenced by the Cæsarean operation. On May 13, 1889, the author induced premature labor at the thirty-fifth week of pregnancy upon a woman upon whom Schauta had performed the Cæsarean section December 1, 1885. This case suggested the question of the probable prognosis as to subsequent pregnancies following the performance of such operations. To the table of Caruso, containing histories of 135 such operations, the author adds 36 cases, the operations in 12 of the cases being in the years 1888 and 1889, and in 24 in previous years. Of these 171 cases, 132 were reported cured, and of the latter number 3 died shortly afterward from causes independent of the operation. In 5 others pregnancy was an impossibility because of certain complications. There were, therefore, 124 women who were capable of subsequent pregnancy. In this number 13 conceptions have been reported occurring in 12 women. This would signify a fertility of 9·6 per cent. in the course of seven years, while, according to Mataeus, eleven times as many conceptions occurred in a similar number of women who were subjected to the operations with which the Cæsarean section is here compared. With women who have undergone the latter operation there is always the fear of having it repeated, which operates against renewed conception. But most of the women in this table were single, only 43 being married. Of these 43 women, 4 died as the result of the operation, and 1 was insusceptible of pregnancy. Among the remaining 38 there were 9 pregnancies—that is, a fertility of 23·6 per cent. From these figures it would appear that fertility after Cæsarean section is not greatly impaired. The prognosis as to a possible future pregnancy may be modified by the choice of material for suturing the uterine wound. Fehling's opinion is that conception is less likely to recur when silver wire is used for the sutures, but the author shows that this view is incorrect. In the 171 cases in the table silver wire was the suturing material in 43, and catgut and silk in 127; in the remaining case the material is not stated. Of the 127 cases, 28 died from the operation, 1 died 87 days afterward, and 4 others were insusceptible of conception. The question as to the influence of suturing material is therefore limited to 94 cases. Of this number, pregnancy recurred in 5, a fertility of 5·3 per cent., or, taking only the married women, a fertility of 12 per cent. Of the 43 cases in which silver-wire sutures were used, 30 were susceptible of conception, and among this number there were 8 pregnancies, a fertility of 26·6 per cent., or 46·1 per cent. if only the married women are considered. This is directly opposed to Fehling's theory and seems to show, on the contrary, that silver-wire sutures are favorable to conception, the reason probably having something to do with the condition of the scar in the uterus.

The author also touches upon the dangers which may ensue when pregnancy and labor recur after Cæsarean section. Judging from the small quantity of material at hand for the analysis of this question, the danger is not materially increased. Perhaps the greatest danger is from stretched or tense adhesions between the uterus and its surroundings. These are less numerous with the use of silver sutures than with silk or catgut.

Miscellany.

On the Strumous Diseases of Childhood and their Relation to Tubercle.—The following is an abstract of a paper prepared by Dr. Thomas More Madden, of Dublin, for the recent meeting of the British Medical Association:

During a long experience as physician to the first hospital for diseases of children established in Ireland, with which I have been connected since its foundation in 1872, the increasing prevalence of the strumous and tubercular diseases of childhood has been constantly brought under my clinical observation. The intimate connection and relation between these conditions was pointed out nearly a quarter of a century ago in my work on *Change of Climate*, and was discussed in a paper of mine in the *Transactions of the International Medical Congress* of 1871, as well as last year in my article on Puberty, in Dr. Keating's recently published American *Cyclopædia of Diseases of Children.* I refer to these dates merely as evidence that the views embodied in the following brief recapitulation were not hastily formed nor without some experience of the subject referred to. The increasing proportion of strumous and tubercular affections which has been observed of late years in my wards in the Children's Hospital is probably largely ascribable to the faulty dietetic and hygienic management of early childhood, and to the general substitution of artificial, and in many instances very unsuitable, preserved or tinned preparations for that natural or fresh milk which, in my opinion, is essential for the healthy nutrition of children. As I formerly pointed out, and the observation is now more applicable than was the case ten years ago, the acute forms of tuberculosis common during childhood resemble the infective diseases in their origin from a specific germ, whether generated in the body or introduced from without. The latter is probably the case in the tubercular diseases prevalent among the children of the poor, in whose dietary various forms of preserved milk foods now enter largely, as it seems difficult to conceive any certain guarantee that the cows furnishing the supply may not, in some cases, suffer from *Perlsucht*, this disease being very prevalent and not materially affecting the quantity of milk. More recently Professor Bollinger has shown that milk may prove infectious whether taken from cows suffering from general or local tuberculosis; in his experiments only a few drops of undiluted milk from a tuberculous cow proved sufficient to produce miliary tuberculosis in animals. Be the pathogenesis of tuberculosis what it may, however, there can, I think, be no question as to the fact that it is most frequently developed in patients who bear in their general constitutional condition, and more especially in their glandular system, the obvious imprint of the strumous diathesis. Nor is it to be wondered at that in children thus constitutionally enfeebled the struggle for existence between the invading specific micro-organisms and the blood corpuscles or leucocytes should almost invariably so speedily terminate in the fatal victory of the prolific bacilli of tubercle.

The Application of the Vichy Waters.—Dr. Durand-Fardel says that in gout the results to be expected, namely, diminution in severity and postponement of the attacks, are better assured the more robust and healthy the constitution of the patient, and the earlier the attack is anticipated by beginning the treatment. In uric-acid gravel, cessation or amelioration of nephritic colic is accomplished, provided the kidneys are intact. The calculi become smaller or even disappear, and thus are eliminated without provoking painful symptoms. Visceral obesity, that is to say, of the chest or abdomen, is very positively relieved. The effect is less pronounced upon the accumulation of fat in the peripheral regions. In diabetes, especially in alimentary diabetes and in those forms associated with obesity, rapid improvement of all the symptoms is effected, together with a considerable reduction or disappearance of the glycosuria. A subsequent reappearance of the latter symptom in constitutional diabetes does not in general reproduce the previous disturbance of health, which may perhaps remain in a satisfactory condition for a very long time, provided the treatment is repeated occasionally. In biliary calculi and hepatic colics considerable improvement is the rule, and frequently a complete cure is obtained. The same is true in simple congestion of the liver, chronic hyperæmia, and the early stages of cirrhosis of alcoholic or malarial origin or dependent upon venous stasis of the abdominal viscera. In malarial cachexia or in that observed in warm climates, in the intestinal catarrh of warm climates, and the sequelæ of dysentery, the waters act beneficially, also in dyspepsia of the atonic variety or that caused by insufficient secretion of the gastric or intestinal glands. A resolving action is exerted upon most of the congestious of the abdominal or pelvic regions, with the exception of scrofulous adenitis, on congestion of the spleen, and on simple congestion of the walls of the stomach (and also on simple ulcer of this organ), on such intra-abdominal tumors as are capable of undergoing resolution, on iliac and circum-uterine abscesses, and also on congestion of the uterus.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

CANCER.

A CLINICAL LECTURE, DELIVERED AT THE PHILADELPHIA HOSPITAL.

By ERNEST LAPLACE, M. D.,
ROFESSOR OF PATHOLOGY AND CLINICAL SURGERY IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA; VISITING SURGEON TO PHILADELPHIA HOSPITAL, ETC.

Lecture II.

Reported by WILLIAM BLAIR STEWART, M. D.

Later on in the hour I will operate in two cases, one
f which will be a case of skin grafting, according to the
iethod of Thiersch, for two ulcers of the leg, while the
ther will be for the removal of a number of venereal warts
om the penis of a man who is suffering with gonorrhœa.
efore speaking of these cases I thought I would take this
pportunity of addressing you on a question of vital im-
ortance in pathology, and to bring into a nutshell and have
a tangible condition what is known of the ætiology of
ie affection we call cancer.

Cancer, a thing of such dread to all who are acquainted
ith it, a thing so difficult to diagnosticate and treat—can-
r, the bugbear of the medical student, especially when
lled on to distinguish between it and sarcoma and amy-
id growth, etc. To begin with what we know about can-
r. The word cancer means simply a crab, so named by
e ancient pathologists from its eating or gnawing. At
e present time it means nothing else than a hyperplasia, or
cessive development, of the cells in a particular part of
e body. Now, these cells may either grow on the surface
id bulge out, or they may grow on the surface and dip
to the tissues. According as they do one or the other,
ey are benign or malignant growths. Let us say, by way
illustration, it began on the surface of the skin in the
ithelium. You all have been out rowing, and have no-
ed how callous your hand would become and how here
d there was a "water-blister." The oar acts as an irritant
the skin, and a congestion and hypernutrition is the re-
lt; the epithelial cells proliferate, accumulate in the one
ot, and there is a tumor or callus, under which may be
und blood serum, which, being absorbed, leaves thickened
idermis.

On the other hand, the man is a smoker and smokes a
pe. The pipe always rubs the same spot. That man
mes from a family of cancerous ancestors, and has a suit-
le soil or predisposition to cancer, if the chances are given
r an irritant to enter the tissues. The man may have an
rasion on his lip; the pipe irritates it and causes a hyper-
nia. Furthermore, there is another element that comes
and this is a micro-organism. I can not prove to you
at this is the case, nor can I show you the germ, but it is
ied to the germs that we know are the cause of other
ections. In the case of the thickened epidermis of the
nd, and when we have a corn on our foot, we have an
itant acting from without; but in epithelioma the irritant
a germ—acts in the tissues and causes the growing epithelium to be pushed down, and causes it to infiltrate into the tissues, while in the corn it is simply an accumulation of the epithelial cells on the surface. The ordinary corn or callus is an epithelioma in the true sense of the word, but time and usage have determined us not to call this an epithelioma. Now let us return to our smoker.

The pipe has irritated the crack or abrasion of the lip. The man is of a carcinomatous diathesis; just what a diathesis is we do not know, but he has the chemical condition within him which makes him a suitable soil to develop cancer. Such a condition is tuberculosis, that springs up from grief or exposure. Many thousand people smoke a pipe and do not get cancer, because they do not have the diathesis. As a result of the irritant, the cells proliferate and produce a chemical substance called a ptomaine. This increases the irritation on the inside and causes the proliferation to continue. The cells do not accumulate on the surface, but infiltrate into the subcutaneous tissue, muscles, and periosteum. These cells proliferate wherever the germs exist to irritate them. Remember, then, that in a corn the irritant comes from without, while in epithelioma the irritant is a germ which acts from within. So much for epithelioma, and this leaves out of consideration a whole class of tumors in which the process is identical, whether on the surface of the skin or beneath it. Laying this aside, let us consider that character of growths represented by fibrous tissue, which includes all fibroma, sarcoma, and scirrhous cancers.

The processes of Nature are blind, and she acts just as she is forced to act. When we have an amputation, the large flaps are open, and a dreadful gap has been made. The surgeon cleanses the wound, renders it aseptic, sews it up, and trusts to Nature to cure it. All the elements that are concerned in cancer are brought to bear here, and grow and heal the wound. The very elements that Nature puts in the most malignant cancer enter into the process of healing wounds. In a cut or wound, as a result, a clot forms in the mouths of the vessels and checks hæmorrhage. The blood is still being forced into the vessels, and in these vessels are small mouths or stomata against which a white blood cell fits. The cells enter the stomata and, by an hourglass contraction, escape from the vessel as leucocytes, giving us the phenomenon of diapedesis. The leucocytes are destined by Nature to grow into fibrous tissue by their elongation. When millions of these leucocytes are exuded into the wound, we say it is covered with healthy granulations. These soon fill the wound, and it is found that those which fill the bottom of the wound have become fibrous; above this come the spindle-shaped, and on top the round cells. Finally, all that remains to complete the healing is to cover it with epithelium. If, for some reason, the leucocyte had not grown, but had been killed, it would have undergone fatty degeneration and given us a pus cell. You must retain these steps and follow them closely if you wish to get the least accurate notion of the development of cancer.

You will find nothing but fibrous and epithelial tissues in cancer, but they are arranged differently from the normal tissues of the body. Sarcoma is a variety of fibroma. Just as epithelioma is a variety due to the growth of epithelial cells, fibroma is due to the growth of fibrous cells. In fibroma there is an exudation of cells from a vessel which undergo the same change that they do in the healing of an ordinary wound. If you make sections of a fibroma and examine them with the microscope, you find cells of different ages representing the round, spindle, and fibrous cell, all in the same tumor. When you find the fibrous cells in excess, it is a fibroma; when the spindle cells predominate, it is a spindle cell sarcoma; and if the round cells are in excess, it is a round-cell sarcoma. A fibroma and a sarcoma are really the same thing, but the sarcoma grows much more rapidly than the fibroma. A fibroma can not become a fibroma until it has undergone the same process of growth as a sarcoma.

True carcinoma develops either as the soft encephaloid or hard scirrhus in the glands. Just as we have the epithelioma on the surface, we may have a growth of endothelial cells in a gland, giving us the encephaloid (brain-like) cancer. When the mass is simply composed of endothelial cells with a very small amount of fibrous tissue and without structure, it is the encephaloid. A scirrhus is nothing else than a combination of an encephaloid and fibrous tissue in which the fibrous tissue predominates. It is much harder than the encephaloid, but the process of development is the same. The epithelial cells are inclosed with fibrous cells, forming alveoli.

We next come to consider the mucoid and amyloid cancers. Nature can do nothing more than I have stated, and these cells, growing under abnormal circumstances, die, and, being contracted upon by the fibrous tissue, undergo amyloid, mucoid, or calcareous degeneration, giving us these forms of cancer.

Metastasis.—To my mind, the very best proof of malignant growths being due to a micro-organism is the element of metastasis—that element by which a growth, if not properly removed, will break out anew in the same or another place, as only one germ is required to develop it. A tumor may be thoroughly removed, but, if a neighboring gland is affected, what can be plainer than that the poison has traveled along the lymphatics and developed? Here is an idea that I wish to submit to you that will take away any absolute or stereotyped rule, and that is when to pronounce a growth benign and when malignant. Why call the one growth benign and the other malignant?

The thickened epidermis on the hand is benign because the irritant that produced it was outside of the body and can be removed. The epithelioma is malignant because *it returns;* the irritant in the tissues has not been completely removed. There is one more growth, and that is the lipoma. A lipoma is nothing more than a fibroma in some of whose cells are deposited fat globules. The oil in the cell has simply pushed the nucleus to one side. A fibrous cell does not possess the power of infiltration like the epithelial, and is self-limiting and movable as a rule and benign. True cancer is immovable because it infiltrates.

Here is a man who had epithelioma of the penis that was removed a year ago, and now he comes back with a similar growth in his groin. What I wish to call your attention to is this fact: If you cut into this tumor and prepare microscopical slides from the different portions of the tumor and give them to a pathologist to examine, he will give this report: One section contains epithelial cells all over it, and he would pronounce it an encephaloid. If another section made from the thickened skin were given him, he would say epithelioma of a malignant type. If I cut still farther up he would say sarcoma; and if lower down he would say fibroma. This illustrates the great caution necessary in making a diagnosis. If the glands are involved it is a carcinoma. If the epithelial tissue is involved it is an epithelioma. All these types can be and are present in the same growth.

The nature of a cancer therefore depends upon the nature and arrangement of the cells in the particular section examined, remembering that the element of benignity or malignancy simply refers to whether the irritant which is the cause of the growth has been completely removed from the system or not.

Original Communications.

A CRITICISM OF WILLETT'S OPERATION FOR TALIPES CALCANEUS.*

By A. B. JUDSON, M. D.,
ORTHOPÆDIC SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

The object of Mr. Willett's† resection is to shorten th tendo Achillis and other fibrous structures at the back o the leg, the abnormal length of which produces talipes cal caneus with its characteristic elevation of the toe and d pression and enlargement of the heel.

We are apt to speak of the *deformities* which are see in orthopædic practice, but it would be more accurate i many cases to use the word disability instead of deformit In talipes calcaneus, for instance, the deformity is not in portant. A large heel and a small anterior part of the fo do not make, in an ordinary case, a bad deformity. B the disability attending every case is very serious.

In the normal condition the action of the muscles e ables the anterior part of the foot to support the body, a the result is an equable gait, the weight at each step co ing first on the heel, and then, as the body presses forwar being transferred to the toe. But when the muscles a paralyzed the patient halts and is seriously crippled. has the stumping gait which goes with a peg-leg. He ca throw no weight on the anterior part of the foot, whi might as well be absent so far as its usefulness in walki is concerned. A similar disability was produced by the American aborigines, who amputated the anterior part of the foot (Lisfranc's operation) to prevent the escape of a captive without lessening his ability to labor.

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* Read before the Orthopædic Section of the New York Academy Medicine, March 21, 1890.

† Remarks upon Resection of the Tendo Achillis in Paralytic Tali Calcaneus. Alfred Willett, F. R. C. S. St. Bartholomew's Hospital port, 1880, pp. 307–310. Four Cases of Talipes Calcaneus of Paraly Origin treated by Excision of a Portion of the Tendo Achillis. Walsham. *British Medical Journal*, June 14, 1884, pp. 1147, 1148.

Dr. Holmes, using the accompanying cut as an illustration (Fig. 1), analyzes the complex act of walking in these words: "Walking, then, is a perpetual falling with a perpetual self-recovery. Man is a *wheel* with two spokes (his legs) and two fragments of a tire (his feet). He *rolls* successively on each of these fragments from the heel to the toe. If he had spokes enough he would go round and round as the boys do when they 'make a wheel' with their four limbs for its spokes. But, having only two available for ordinary locomotion, each of these has to be taken up as soon as it has been used and carried forward to be used again, and so on alternately with the pair."* Therefore, when a patient is disabled by paralytic talipes calcaneus, it may be said that some fragments are gone from the felloes of the human wheel.

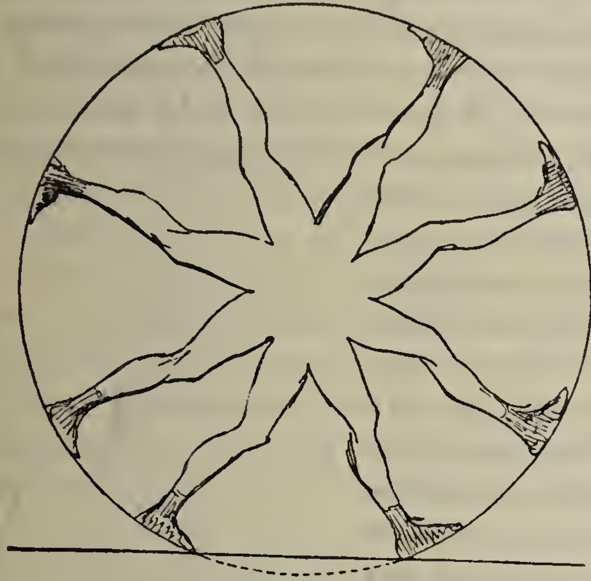

Fig. 1.

The cause of the tendinous elongation in talipes calcaneus is obvious. At every step the foot is forcibly flexed on the leg without adequate muscular resistance at the heel, and the result is that the tendons become stretched and useless. In a normal limb the muscles at the back of the leg form a group of remarkable size and power, the principal function of which is to sustain the body when the foot is extended on the leg, and it is an interesting question whether the cicatricial tissue following a resection of the tendo Achillis is able to resist the weight which it is the function of this great muscular group to uphold. Extension of the foot on the leg while the limb is pendent or recumbent may be effected by the action of a few muscular fibers, but this function is of no importance compared with the power to hold the body on tip-toe, which can only be done by supreme muscular exertion.

In order to demonstrate clearly the severity of the strain which falls on the muscles of the calf and the tendo Achillis, I have made the machine shown in Figs. 2 and 3, in which wooden sticks represent the leg and the foot and a spring balance the tendo Achillis. The weight of the body is represented by a bag of shot weighing four pounds. The machine can be balanced in an upright position for an indefinite time by a light touch of the hand, and the joint representing the ankle is adjustable at any point between the heel and the toe. On trial of the machine the spring balance is seen to vary in its registry when the joint representing the ankle is moved to a new point between the heel and the toe. When it is near the toe the balance registers a small fraction of a pound, and when it is at a point near the heel the balance indicates twenty or twenty-four pounds, the limit of the scale.

In Fig. 2 the ankle is half way between the heel and toe, and the balance registers four pounds, showing that if the ankle in the human foot were midway between the heel and toe the strain on the heel-cord would equal the weight of the body. In Fig. 3 the machine is so adjusted that it measures three inches from the ankle to the heel and nine inches from the ankle to the toe, a proportion which approximates nature. It is now seen that the balance registers twelve pounds, or three times the weight of the bag of shot which represents the body. It is thus demonstrated that if a boy weighs one hundred pounds the strain on his tendo Achillis when he is balancing on tip-toe approximates three hundred pounds.

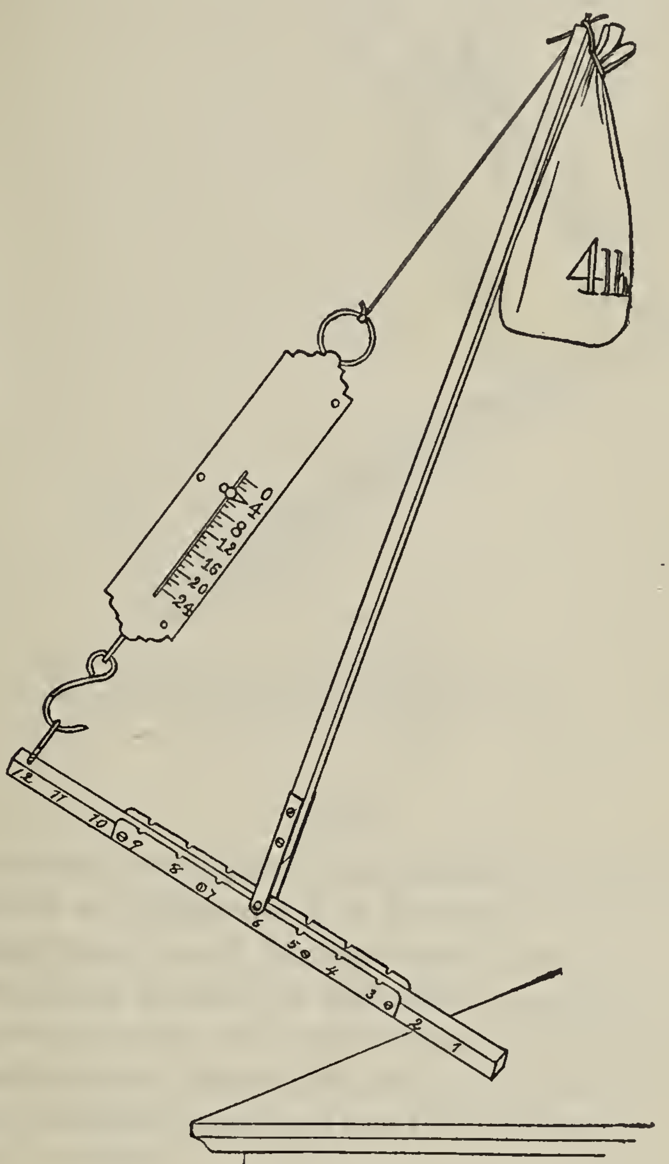

Fig. 2.

It is noteworthy that the strain decreases as the vertical line through the heel approaches the vertical drawn through the toe and the center of gravity and disappears when these lines coincide, as they do perhaps in the extreme poise of the ballet-dancer. But in the ordinary movements and in what is attempted by an operation it is impracticable to try to reduce the strain on the tendo Achillis by exaggerated extension of the foot on the leg.

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* The Human Wheel; its Spokes and Felloes. By Oliver Wendell Holmes. *The Atlantic Monthly*, May, 1863, pp. 567–580. Cut used by permission of the publishers.

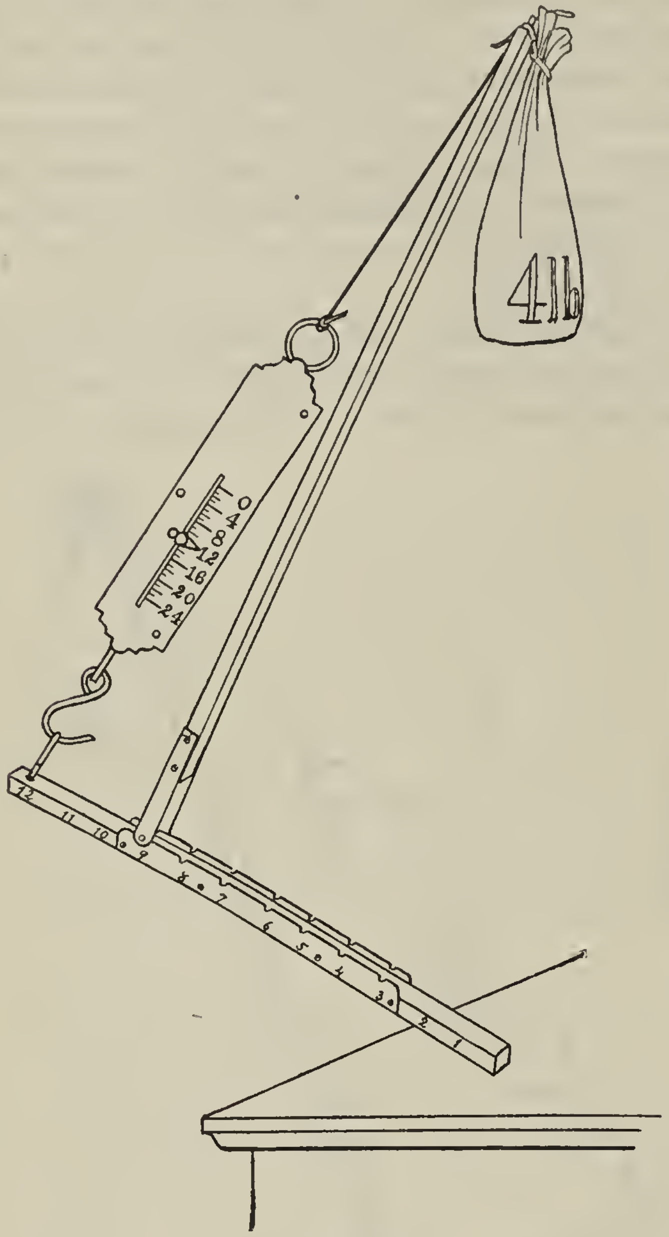

Fig. 3.

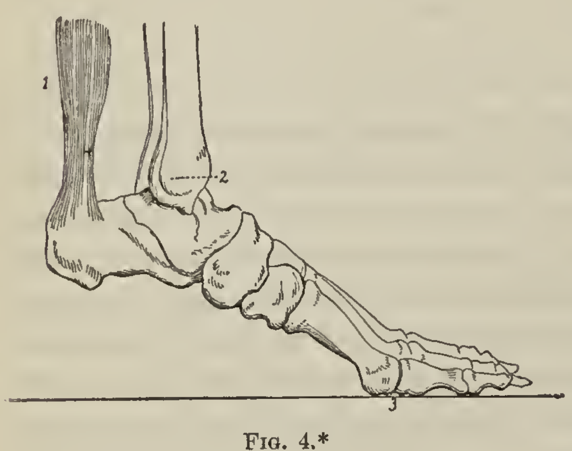

Fig. 4.*

It is also noteworthy here that, if the gastrocnemius and soleus are paralyzed, it is impossible for the smaller muscles (the flexor longus pollicis, flexor longus digitorum, tibialis posticus, and the first and second peronei) to sustain unaided the weight of the body, not only from their small size, but also because they act at a peculiar disadvantage. The tendons of these muscles pass behind the malleoli to be inserted on the plantar surface of the foot, and their ability to sustain the weight of the body is to be estimated as though they were in fact inserted at the posterior borders of the malleoli. This insertion is evidently much nearer the point of motion at the ankle than the posterior extremity of the os calcis, as may be seen in Fig. 4, from Marshall's *Physiology*, although the space is doubtless exaggerated in this cut. The smaller muscles above mentioned, acting thus at a still greater mechanical disadvantage than the soleus and gastrocnemius, are more certain than they to be violently stretched when the weight of the body falls on the toe in the absence of adequate muscular contraction at the heel. The muscles in question are therefore very properly left out of our calculations.

That the tension falling on the heel cord greatly exceeds the corporal weight is thus seen to be a matter of physical demonstration. It is also found to be in accord with the formulæ of mechanics. It has long been recognized that the foot is a lever of the second order, as is shown in Fig. 4, the weight (2) being between the power (1) and the fulcrum (3).

Fig. 5 also shows a lever of the second order, the forces in equilibrium about the fulcrum C being the upward tension of the heel cord at A, represented by T, and the downward pressure of the tibia DB at B, represented by R. The moments being equal, $T \times AC = R \times BC$. As R is the resultant of the tension of the heel cord and the resistance of the ground at C, which is equal to the weight of the body, represented by W, $R = T + W$. Therefore $T \times AC = (T + W)\, BC$, or $T \times AC = T \times BC + W \times BC$, or $T \times AC - T \times BC = W \times BC$. But $AC - BC = AB$. Therefore $T \times AB = W \times BC$, or $T = \frac{W \times BC}{AB}$. If, now, the weight of the body is one hundred and fifty pounds and the distance from the ankle to the toe, BC, is six inches, and the distance from the ankle to the heel, AB, is three inches (a fair statement of the proportion, which is probably greater than two to one and less than three to one), the tension on the heel cord is $\frac{150 \times 6}{3}$, or $\frac{900}{3}$, or three hundred pounds.

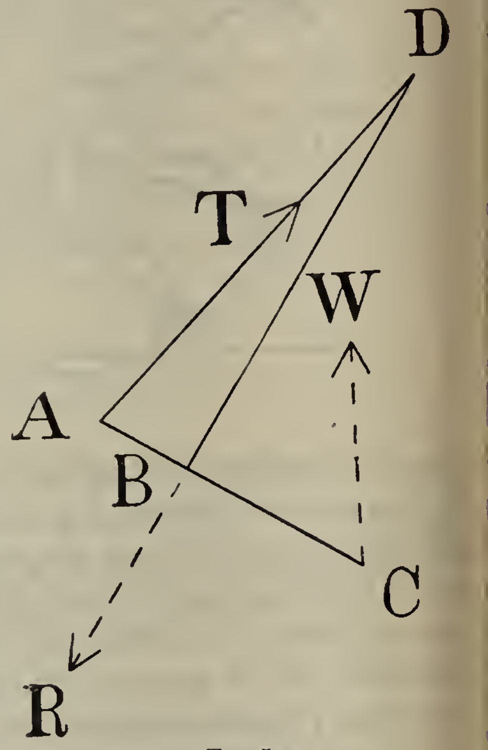

Fig. 5.

In this demonstration accuracy would require the forces to be considered in their perpendicular distance from the fulcrum, but practically the same result may be reached by the use of cosines, as in a valuable paper by Dr. William E. Wirt (*Medical Record*, June 28, 1890, p. 725). It is also to be borne in mind that the tension is even greater than is represented above, because in some of the more violent movements of the body the strain is the sum of weight plus momentum.

It thus becomes difficult to believe that the cicatricial tissue formed in the tendo Achillis after resection will be able to endure the test of use. It is not likely that the cicatrix is ever broken, because patients habitually guard such a point from undue violence; but there is certainly nothing to prevent the tendon from again becoming elongated. It was lengthened, in the first place, by the weight of the body repeatedly falling on the toe in the absence of adequate contraction in the muscles of the calf. Muscular power is still absent, and the tendon, exposed to the same strain, will again become elongated in the cicatrix or in the fibrous tissue above or below.

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* *Outlines of Physiology.* By John Marshall. American Edition, 1868, p. 163, Fig. 49. Cut used by permission of the publisher.

I do not remember having read any earlier exposition of the mechanical disadvantage which falls to the lot of the tendo Achillis and the muscles of the calf.* It is not probable that this important point has been entirely overlooked. But the question of prior recognition and appreciation of the adverse lever at the ankle joint is less important than to again call attention to a simple and not very expensive method of mitigating, by mechanical means, the disability which accompanies talipes calcaneus.

The brace in question supplies the place of the anterior part of the foot. It does in a simpler and perhaps more effective manner what has been done before by other forms of apparatus. Its object is to prevent the foot from being flexed on the leg when the weight of the body falls on the toe. A growing child thus affected should wear this simple apparatus, not only because the gait is thus immediately improved, but also persistently through the period of growth, because enlargement of the heel is thus prevented, and in after life the gait, without the brace, is much better than it would have been if the tendons and muscles of the calf had been over-extended at every step during the time of growth.

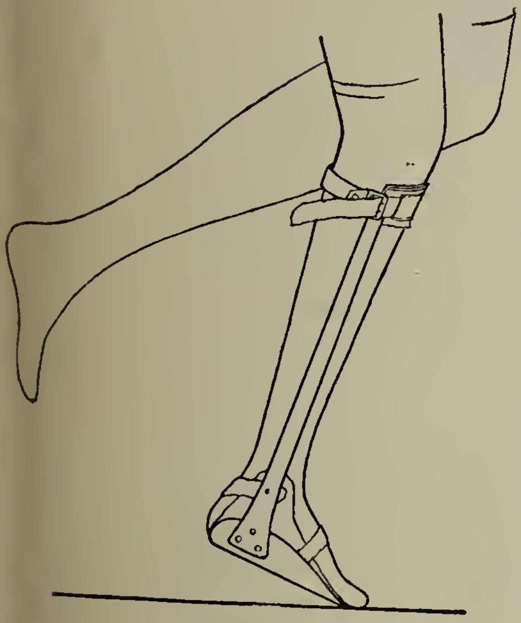

FIG. 6.

The brace restores to the patient the ability to stand on tip-toe, and to use the anterior part of the foot to sustain the weight of the body in ordinary locomotion, as well as in the more active movements of the body. Fig. 6 is copied from an instantaneous photograph dated 1885 of a patient, at that time a young girl, whose unaffected leg measured two inches and seven eighths more in circumference than the affected one. Without the brace she an not put the smallest fraction of her weight on the toe of the affected limb, but with the brace applied she balnces herself on tip-toe with ease, as shown in the cut.

When I examined this patient recently, after an interal of several years, the (infantile) paralysis persisted, as was expected, but the deformity characteristic of talipes alcaneus was present in only a very moderate degree. She had worn the brace persistently with comfort and advantage. When she walks carefully, wearing the apparatus, her gait is free from the slightest defect. She sometimes lays it aside to please importunate but mistaken friends, but insists on wearing it when the duties of housekeeping are urgent, and will not appear out of doors without it.

This brace should be made without a joint at the ankle, differing in this respect from the one described in detail by me in 1885.* Experience has shown that the joint was useless, and the cause of frequent and expensive repairs. In some cases, also, the knee becomes slightly flexed, evidently because habitual flexion is necessary to enable the tibia to press against the padded strap at the upper part of the apparatus. It is therefore desirable to attach the upright near the posterior extremity of the foot piece, and also to incline it backward at an angle (in some cases 10°), which may be determined for each case by repeated trials. The angle may be changed, for experiment, by a heavy blow delivered in an antero-posterior direction while the upright is suitably supported at each end.

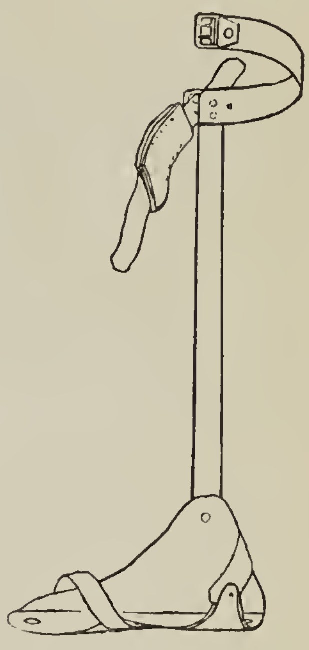

FIG. 7.

In other respects the brace, shown in its present condition in Fig. 7, is unchanged, and continues in use by a number of patients. It transfers the forces of weight and momentum, which in the normal foot are received at the ball of the toe, to the upper part of the anterior surface of the leg near the tubercle of the tibia, where a callus and an adventitious bursa are produced. Adults wear it constantly, as they would an artificial limb, with great increase of their ability to walk well and far.

In many cases the improvement in walking is partly due to an apparent increase in the length of the limb. The brace is easy to adjust, inexpensive, almost indestructible, and certain to add to the patient's comfort and ability. If necessary, webbing may be attached to prevent or lessen the valgous condition which often accompanies talipes calcaneus.

THE MADISON, EAST TWENTY-FIFTH STREET.

Hydracetin in Skin Diseases.—"As the result of some observations on the use of hydracetin in skin diseases, Dr. E. Basch finds himself unable to agree at all fully with the laudatory accounts which have been given of its action by some other observers. He finds that it is decidedly poisonous, even when applied externally. In a case of general psoriasis, where a ten-per-cent. ointment was applied to a third of the surface of the body, after ten days' treatment the skin and mucous membranes became quite pale, and, though the hydracetin was then stopped, hæmoglobinuria and jaundice supervened. The pulse became very rapid, but, notwithstanding the constitutional action of the drug, the psoriasis was not benefited. Dr. Basch finds that hydracetin, though a powerful reducing agent and useful in small patches and limited areas of psoriasis, has by no means the specific effect that pyrogallol and chrysarobin apparently have."—*British and Colonial Druggist.*

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* *Vide* report of the January meeting of the Orthopædic Section, *New York Medical Journal*, March 1, 1890, pp. 246–249.

* *Medical Record*, May 16, 1885, pp. 538, 539.

ON TWO CASES OF MUSCULAR DYSTROPHY.

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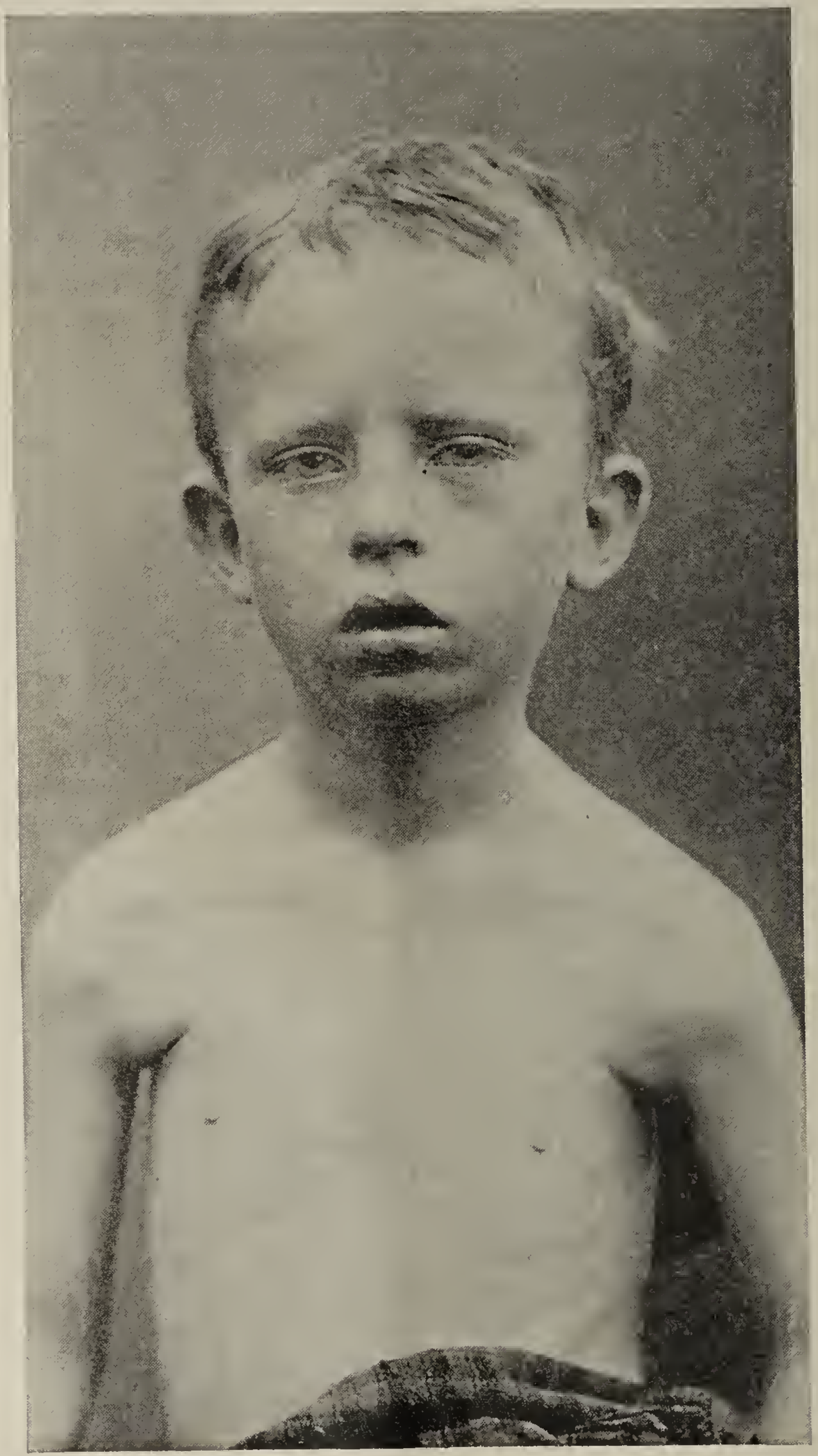
The classification of diseases is a by no means unimportant subject in medicine, and, in our continued ignorance of final causes, is, in fact, almost the chief way of increasing the existing stock of medical knowledge. A perfect classification could only proceed from omniscience, and can not be hoped for. However, there are certain broad principles which should be kept in view in order to make an at least useful division of disease types; the most fundamental of these is never to generalize except from a large, in fact the largest possible, number of cases. It is true some new diseases have been described from a single case; but this is a rather dangerous precedent to follow. There is a limit to the value of dividing types of disease into groups and subgroups.



The dangers of over-classification are well shown in the somewhat protean disease-form known as muscular dystrophy. This affection, a few examples of which had before been described by an English observer—Meryan—was first clearly marked off from other trophic disturbances of the muscular system in 1861 by Duchenne, of Boulogne. His description was based on a study of thirteen cases, and was soon followed by the publication of several cases in Germany and England.

The name under which the disease has usually been described is the one proposed by Duchenne—pseudo-hypertrophic muscular paralysis. Subgroups soon began to appear as different forms of the affection came under the eye of various observers, and distinctions were made according as cases were affected early or late in life (juvenile form of Erb), or from the muscle groups which happened to be early affected (face and arm type of Landouzy, Déjerine, and others).

It has become evident that the disease may begin in an endless variety of ways, and there is a growing tendency at present to do away not only with all classification from a regional basis, but also all nomenclature which may be misleading as to the as yet unknown cause of the affection.

At one time the involvement of the facial muscles was a source of contention between the German and French observers. This feature of the disease, first described by Duchenne,* has been for some reason rare in Germany, although sufficiently common in France. It is shown in a quite marked degree in the following case, which has lately come under my observation:

A. J., a boy aged seven, parents both living and healthy. The patient, an only child, has always been rather delicate, but was considered moderately well until six months ago. Then it was noticed that there was a weakness of the neck. If the head fell forward it was rather difficult to get it back, and there was some bulging of the spine at the back of the neck. This is all that the patient complained of. About a month ago he had the measles, from which he made a good recovery.

On inspection, the patient is a frail-looking boy, with a very well developed head. The face, however, has a stupid expression, the upper lip being very thick and the mouth open the greater part of the time. The whole face has a rigid appearance, especially noticeable when the patient talks or laughs. It is quite impossible for him to pucker his lips to whistle or even to blow; this condition of things has become marked within the last few months.

The accompanying photograph shows very well the habitual expression of the patient, but fails, of course, to convey an adequate idea of the almost entire immobility of the face, which is the most striking feature of the case. The palpebral openings are equal; the pupils are equal and react to light; there is no apparent weakness of any of the ocular muscles, and no diplopia. The arms are both very small, the deltoids markedly atrophic, especially the right one, which has almost entirely disappeared. The arms can neither of them be raised above the horizontal. The scapulæ project, the inferior angles being thrown back, giving a markedly winged appearance when the patient stretches his arms in front of him. The cervical vertebræ show a marked curvature backward, due apparently to a wasting of the deep muscles of the neck and upper part of the back. The muscles of the lower part of the back seem strong and large enough. The head is carried well back, or, if allowed to go forward, drops on the chest. There is no lateral curvature of the spine, and no tenderness over any of the vertebræ. The abdomen protrudes somewhat. The thighs and legs are of good size; they do not seem at all hypertrophic, and are fairly strong.

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* *Paralysie musculaire pseudo-hypertrophique*, Paris, 1868, p. 19. Obs. xii.

The dynamometer registers a grasp of 4 with the right hand and 14 with the left. The muscles of the upper extremities react well to the faradaic current, except the right deltoid, which does not react at all. The reaction to the galvanic current is normal in the right forearm and left deltoid, KCC>AnCC, and the response on closure of the circuit is prompt and rapid. There are no triceps or wrist reflexes. The knee-jerks are slight, but are distinctly present. There is no anæsthesia. The patient gets up from the floor in a very peculiar way by pushing himself with his head, seemingly on account of weakness of the muscles about the shoulders, which prevents him from assisting himself with his arms. Once tarted, however, he raises his body quite easily by means of the muscles of the lower part of the back. This is quite different rom the characteristic way which some patients have of raisng themselves, so well figured by Gowers in his excellent monograph,* and which is rendered necessary by weakness of the musles of the small of the back. There are a few moist râles over the lungs; the percussion note and breathing sounds are normal.

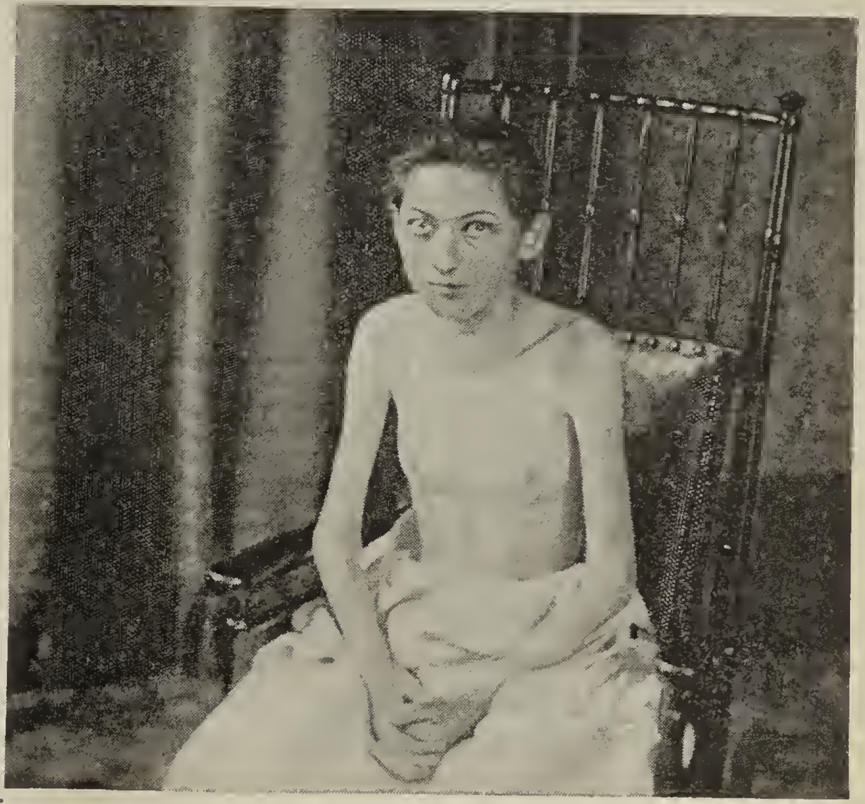
It is necessary to distinguish this case from the paralyis of Pott's disease, which it resembles somewhat on acount of the curvature of the cervical vertebræ. A moment's consideration will convince us that the atrophy of he muscles is much greater in proportion to the loss of ower than is ever the case in paralysis from pressure on he cord. In this connection the absence of the reaction f degeneration is also significant. This, with the absence f all sensory symptoms, pains, or anæsthesiæ, especially he absence of tenderness over the spine, the simple bulging of the vertebræ without deformity, and the positive ymptom of involvement of the face, is ample evidence n excluding caries of the vertebræ as the cause of the rouble.

From muscular atrophy of spinal origin the diagnosis is ot so easy, or would not be were it not for the involvement f the face. The absence of the reaction of degeneration is ot so significant as would at first sight appear, since in the tter disease the process is so gradual, the affected muscles eing attacked fiber by fiber, that in any given muscle there e enough healthy fibers to give the normal prompt reacon up to the time when the muscle has almost diappeared. uscular atrophy of spinal type has, however, certain charcteristics in its mode of development. It is apt to begin adult life, attacking first the small hand muscles, which ere are not affected; above all, the facial muscles, if they e involved, present the clinical picture of glosso-labio-langeal paralysis, or bulbar paralysis, which certainly is not resent in this case.

As all evidence of disease of the spinal cord is wanting, we must refer the case to the class of muscular dystrophies, and, for lack of a better name, call the affection pseudo-hypertrophic muscular paralysis.

The next case has some similarity with the preceding one, but is unusual in developing side by side with another nervous affection as mysterious in its origin and ultimate pathology as is the one under consideration.

M. T., a bright, intelligent-looking girl of fifteen, was quite well until three years ago; then it was noticed that she was walking a little lame. This gradually increased, and a year ago she became unable to get her left heel to the ground. It was also noticed three years ago that there was a swelling of the throat, which has since become more marked. The patient has complained of shortness of breath, especially on going up stairs, but has had no palpitation of the heart. The appetite has been poor lately, the bowels regular. The patient is one of four children; the others are all healthy.



On examination, the eyes are somewhat protruding and wide open, but can be readily and completely closed. This protrusion has been noticed by the child's mother, and has increased of late. The pupils are equal and react to light, the color is good, and facial muscles normal in appearance and action. The tongue is protruded straight. There is a very well marked enlargement of both thyreoid glands. The pulse is soft and regular, and under the excitement of the examination 104. The heart sounds are normal; there is no murmur. There is a marked reddening of the skin where the clothing touches the body; if the nail is drawn across the skin, in a few moments a bright-red line appears and persists for some time. The arms, forearms, and deltoids are markedly atrophic, but the interossei, pectoral, abdominal, and back muscles are of fair size. There is no distinct paralysis of any of the muscles. All the movements of the arms can be carried out, but weakly. Grasp, according to dynamometer, 18 with right hand, 17 with left.

To the faradaic current all the muscles of the upper extremities react, except the extensors of the fingers; in these a reaction can be obtained only in the right extensor minimi digiti. To the galvanic current all the muscles of the upper extremities react promptly, and KCC>AnCC.

In the lower extremities all of the muscles seem moderately wasted, except those of the right calf. The latter is plump and firm, in contrast to the left calf, which is small and flabby. When the patient stands the feet are held rather wide apart; the right heel can with some difficulty be brought to the ground; the left foot is held in the position of talipes equinus; the heel can not be brought anywhere near the floor. The knee-jerks are absent on both sides. The muscles all of them act fairly well, although weakly; electrical reactions not tested. There is no protrusion of the abdomen. Sensibility is normal all over the body.

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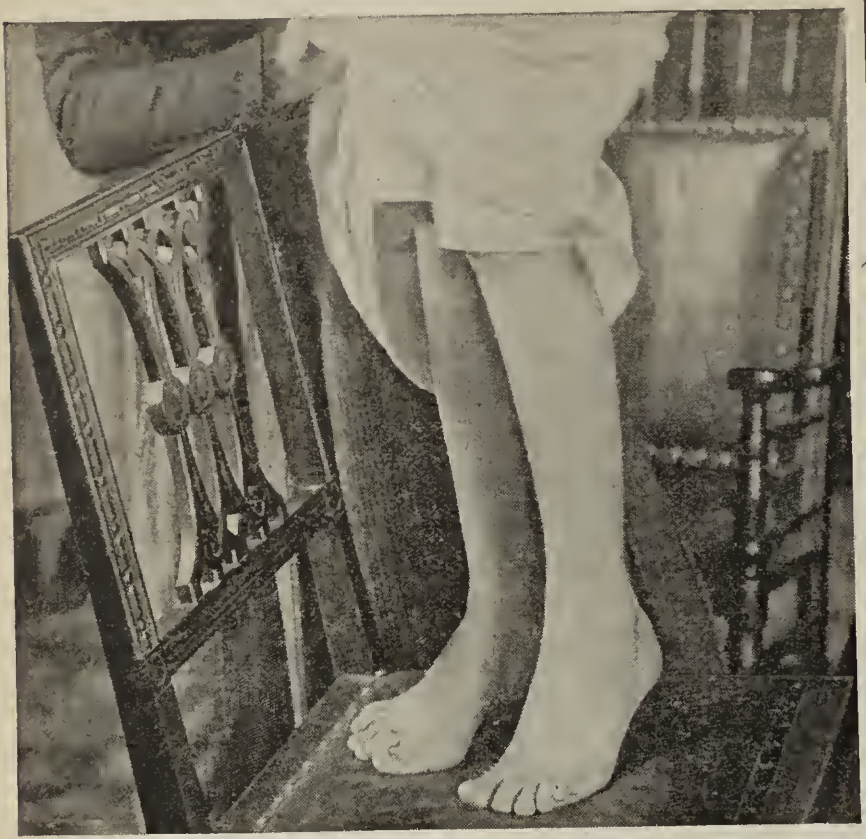
* *Pseudo-hypertrophic Paralysis, a Clinical Lecture*, London, 1879.



Ophthalmoscopic Examination.—Optic discs clear, of a rather pinkish color. Fundus of both eyes normal.

The diagnosis of exophthalmic goître is obvious in this case, from the enlargement of the thyreoids, coincident protrusion of the eyeballs, the latter not yet sufficiently well marked to cause von Graefe's symptom, and the so-called "tache cérébrale," which in this affection is sufficiently common.

The tremor which is often in these cases very marked is replaced by another set of motor symptoms, sufficiently characteristic, and which, taken together, certainly deserve to be ranked as pseudo-hypertrophy. The weakness, the wasting of certain muscle groups are present, and with them another condition which is found in many of these cases, a contracture and shortening of the muscles, leading to club-foot and other deformities. The only distinctly hypertrophic muscles at present are those of the right calf, although other groups may have been enlarged earlier. Of this no history can be obtained.

It is almost useless to speculate on the probable connection between the two distinct affections from which this girl is suffering. Trophic and vascular disturbances are no doubt intimately related in their dependence on nerve supply, but too little is as yet known in this field to warrant any conclusions from such a case as the present one. The coincidence of two such affections is, however, somewhat suggestive.

A word may still be necessary, on the distinction of the above cases from those forms of disease which are marked by changes in the motor ganglion cells of the cord. That caution is necessary in postulating disease of the cord from a partial reaction of degeneration, even when it occurs together with total atrophy of the small hand muscles, is evident from the case so carefully examined by Schultze,* in which these symptoms were present and in which not only the central nerve tissues, but also the peripheral nerves, were practically normal. I believe that, even in cases which, unlike the two just described, present no muscular enlargements, we may easily go wrong in assuming an organic basis for the disease; and in these two cases the absence of decided evidence of a nerve lesion is given much positive value by the marked though not extensive hypertrophy of certain muscle groups.

The treatment of the latter case has as yet been directed to the vascular rather than the trophic disturbance. With the lapse of time an operation for the relief of the deformity may become advisable, but gives, unfortunately, no more than a prospect of temporary relief.

NOTE ON THE ACTION OF PYOCTANIN AS AN ANTISEPTIC.

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ATTENDING SURGEON, EASTERN DISPENSARY;
LECTURER ON SURGERY IN THE NEW YORK POLYCLINIC.

Among the antiseptic agents more recently introduced, pyoktanin, one of the aniline dyes recommended as a dressing for wounds by Stilling (1), of Strassburg, has appeared to me, during a brief clinical experience with it, to offer special advantages in the treatment of a certain class of surgical affections. I therefore believe it deserving of more general attention, and do not hesitate to recommend its further trial, notwithstanding the adverse criticisms which have appeared regarding it in the German medical press (2, 3, 6). I am indebted to Mr. F. A. Stohlmann, of this city, for first calling my attention to it, which he did in May of this year. Since then I have used it in about one hundred and fifty cases, representing various surgical conditions and occurring, for the most part, in dispensary practice. The cases in which it proved most beneficial were superficial wounds, ulcers, abrasions, excoriations, burns, and all kinds of granulating surfaces. With its action on mucous membranes I have little experience. Only one preparation was used—the violet pyoctanin of Merck—and it was always employed in an aqueous solution, one part by weight in a thousand, the solution generally being prepared fresh. The powder and the yellow preparation (auramine) were used in very few cases only. With this solution simple absorbent gauze was saturated, which was generally applied still moist to the surface to be dressed. In some cases the gauze was kept a day or two and applied dry. The dressing was next usually covered with a protective, hospital oiled paper being generally preferred, this manner of dressing having proved most satisfactory for use in this climate, and especially where there was reason to fear any retention. In other cases, however, as in fresh aseptic wounds, the protective was left off with more advantage. The dressings were allowed to remain as applied for three days on the average. Large wounds were found to require more frequent change.

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* *Ueber den mit Hypertrophie verbundenen progressiven Muskelschwund, und ähnliche Krankheitsformen*, Wiesbaden, 1886.

The forbidding appearance of the solution and the gauze did not meet with any protest or remonstrance on the part of the patients, contrary to my anticipations. On the contrary, after the first application, the patients, of their own accord, expressed themselves warmly in its favor, and in every instance requested to be dressed "with the blue dressing." It was this indorsement of its properties which led me to continue its use. The intense staining qualities of the substance, as evidenced on its contact with the hands and apparatus, lose some of their terrors when one learns how readily alcohol or tinct. saponis will remove such stains (4). This property appears to me to be a serious objection to the use of the powder. The gauze, however, may be impregnated in a glass dish and manipulated with forceps and scissors without inconvenience. In fact, the coloring properties appear to me to have the advantage of keeping the dressings unsoiled by unnecessary contact, as well as of affording a test as to the thorough action of the disinfectant.

Under the treatment above described, the surfaces of granulating wounds which had been exposed for some time to the air did remarkably well. Secretion of pus was frequently cut short as soon as the dressing was used. In most cases, however, some pus continued to appear in the central portions of the dressings, until they had been changed twice or three times. The granulations proper always appeared in good condition under the dressing. In no case did exuberant granulations spring up, and where such were present at the time of applying the dressing, they soon, after two or three changes, assumed a healthy appearance. The pyoctanin has a moderately astringent action on the granulations. But where the dressing is allowed to remain on for one week and the gauze becomes discolored by the action of the pus, the granulations appear as under other dressings.

The epithelium about the edges of the wound showed no undesirable conditions. In no case was any eczema observed about the wound, nor were any other symptoms of irritation or increased serous secretion from the wound observable. On the contrary, the dressings appeared to favor the rapid and healthy growth of the epithelium over the granulations, so that ulcers which had been a long time healing healed very much more rapidly under the dressing described. In this particular lies the main advantage of pyoctanin over other antiseptic dressings for this class of wounds; the moist dressings, with the exception, perhaps, of creoline, are more irritant to the wounds, while the powders retard the growth of the epithelium. Burns, too, showed very satisfactory results with pyoktanin dressings, and compared very favorably with those treated with frequent oily dressings.

Necrotic tissue remains uninfluenced by pyoktanin; it is not even readily stained. The secretions from the sound tissue surrounding the necrotic parts, however, being minimized by the pyoctanin, and the formation of pus prevented, the eliminating action of suppuration is much interfered with by this agent. Consequently the coming away of sloughs and the cleansing of necrotic ulcers is not hastened by pyoctanin, but is retarded in the same manner as by other antiseptics. For some cases, as after severe burns, this action is of course desirable; for smaller sloughs, where rapid healing is desired, other dressings are more advantageous. It may be stated, however, that since the action of the pyoctanin, applied as above, does not penetrate through the slough, the elimination of the necrotic portion from beneath the slough in infected wounds is not essentially interfered with, so that, while eliminative suppuration goes on beneath the slough, the formation of epithelium goes on about the edges of the necrosed portion where the agent has access, so that ulcers so treated actually begin to heal before they are completely cleansed.

The action of pyoctanin on fresh wounds is very much the same as that of other antiseptics; they retain their normal conditions, and heal by primary intention. If the nature of the solution permitted of a less apprehensive use of the stain as an irrigating fluid, I do not doubt but that it would prove much more extensively useful. But as yet I am at a loss to see how the solution can become popular for such purposes.

Venereal ulcers were beneficially influenced by application of the dry gauze; secretion was diminished and formation of epithelium hastened. Syphilitic (tertiary) ulcers appear less influenced. The lengthy time of cleansing, the appearance of the slough, and the pain accompanying syphilitic ulcerations, are the same as under other dressing. Compared with iodoform, the latter appear to me to do better under iodoform, while the venereal ulcers (chancroids) do much better under pyoctanin.

In no case coming under my observation has there been any acute infection of a wound under a pyoctanin dressing; erysipelas, phlegmons, lymphangeitis, lymphadenitis, septicæmia, and pyæmia were not once observed as secondary affections after application of the dressings. But I am far from attaching much importance to this observation in consideration of the small number of cases seen.

In conclusion, I may say that pyoctanin appears to me to kill certain kinds of pus wherever it comes wholly in contact with it, but it has not the power to penetrate sloughs, and, where septic necrotic processes are going on, frequent change of dressings is necessary. It is non-irritant to wounds, and keeps granulations in good condition. It also insures the patient's remaining remarkably free from pain and subjective inconvenience. But, where the pain is deep-seated, or due to other conditions than those of the superficial wound, this effect of pyoctanin is not observed, as in the following case:

A robust man was driving a cart in a Brooklyn park, when his horse became unmanageable and kicked him, as he sat on the front of the cart, three times successively on the leg. Seen soon after by me, he presented a longitudinal wound of about four inches in length immediately below the tuberosity of the tibia. The edges were contused; at the bottom the bone was laid bare, denuded of its periosteum. Dressing with pyoctanin, the wound being first cleansed with pure water (all other disinfectants being avoided) and swabbed with moist pyoktanin gauze; coaptation sutures were applied, cocaine being employed hypodermically (Dr. Whitaker). The wound consequently did well and presented an aseptic course, the contused edges of the wound becoming necrosed. But for the two days following the accident the patient suffered severe pain at the seat of the injury.

I may add that pyoctanin has been made the subject of careful bacteriological investigation by Jaenicke (6). Stilling and Wortmann, who tested the action of the dye on putrefactive bacteria, found (5) that it killed them in a concentration of 1 in 4,000, which Jaenicke confirms. But the latter author tested its action on pure cultures of several kinds of pyogenic micro-organisms. In bouillon *Staphylococcus pyogenes aureus* was killed by the addition of sufficient pyoktanin to represent a solution of 1 in 2,000,000. The streptococcus was killed by 1 in 250,000, and a diplococcus resembling the pneumonia coccus by 1 in 1,000,000. In blood serum the action was less pronounced, the staphylococcus being killed by 1 in 500,000 only. A 1-in-1,000 solution killed the *Staphylococcus aureus* in one minute and the streptococcus in five minutes, anthrax bacilli without spores being killed in two minutes and a half, while the bacilli of typhoid fever were not killed in fifty hours. In a dried condition the staphylococcus was killed by a 1-in-1,000 solution in five minutes, but when suspended in blood serum the same micro-organism was only killed after an hour's exposure.

From these data Jaenicke argues that the drug might be good as an inhibitory agent (to sepsis), but not as a disinfectant, where it would necessarily have to act in albuminous media.

Its toxic properties were also estimated by the same author. Mice survived the subcutaneous injection of one fifty-thousandth part of their weight of pyoctanin, while the intra-abdominal injection of a fourth of this quantity killed them.

Its non-coagulative effect on albumin has been recently pointed out by Stilling (7), so that in this particular it has the advantage over plain sublimate solutions.

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4. *Wien. med. Wochenschr.*, 1890, xl, 937 (No. 22).

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A New and Rapid Test for Sugar.—"At a meeting of the Austrian Surgical Society last week, Professor Nothnagel showed a handy test for sugar, which had been forwarded to him by Dr. Becker, of Cairo. It is simply a visiting card saturated with a solution of potash, over part of which is drawn a covering of the sulphate of copper, and the urine applied. The card is then laid on the globe of a lamp, when the saccharine urine will color the card brown, and this color will be the deeper the greater the amount of sugar."—*British and Colonial Druggist.*

SOME POINTS IN THE EXAMINATION OF PERSONS FOR LIFE INSURANCE.

By C. L. DODGE, M. D.,
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Examination for life insurance requires special aptitude for this particular work. "To one who is thrown much with medical examiners it will be seen at once that they do not, as a rule, fully comprehend the position which they are called to fill" (Keating). A patient calling upon his physician is full of complaints, anxious to acknowledge all the pains and symptoms of disease he may be suffering from, and ready to communicate the cause and history of his malady; no information is withheld, and no questions are evaded. Not so in the examination of a risk for life insurance.

By the time a man has made up his mind to insure he has learned that a medical examination has to be passed. This the average man dreads, whether he is willing to admit the fact or not, for different reasons. A considerable experience in the examination of candidates for various lodges where sick and death benefits are paid, as well as for life insurance proper, warrants the correctness of this statement. First, many men fear that a rigid examination will disclose some hidden disease, or tendency thereto, which they would prefer to remain in ignorance of until they discover it for themselves. Others realize that rejection by one company will operate against them unfavorably if application should be made to another. Hence the dread of rejection.

For these reasons, we always note the absence of frankness so characteristic of ordinary patients.

No voluntary statements are made which would give color to poor health, past or present. Symptoms and ailments of both the applicant himself and of his family connections are made light of and undervalued. In the family history it is quite frequently observed that the applicant will intrench himself behind the negative information conveyed by the answer, "I don't know," to questions of vital importance to the examiner and the company. Many times these questions would be answered quite explicitly if the party was allowed or requested to call again with the desired information.

Medical examiners are frequently appointed by some of our largest companies arbitrarily, and with very little regard to fitness or qualifications. If a man stands well socially, or happens to be a personal friend of the agent, local or general, he is forthwith appointed the medical examiner. It is true that the company requires him to fill out a blank, furnished for this purpose, giving the college he graduated from, with date, etc.; but what does all this amount to in the way of showing a man's qualifications as a scientific physician? I will venture the assertion that not one physician in ten has a work devoted to the subject "examinations for life insurance" other than the little book of directions furnished by some companies. Ten years ago microscopy and physical diagnosis * were not taught at any of our medical colleges except as special courses, which were taken by less than ten per cent. of medical students. How, then, I ask, is it expected on the part of the companies, with their haphazard way of appointment, that they will be able to secure first-class men to act as their medical examiners in the smaller cities and country towns? The medical officer at the home office is supposed to pass finally on all applications received. Inability of the applicant to reach a certain arbitrary standard is sufficient to bar him out; but the medical director, in my opinion, is very much in the same position as the alleged specialist who guarantees to make a positive diagnosis from answers to a set of printed questions. Any well-educated physician knows the fallacy of such a procedure. If a man's family history is bad, if his own health is below par, or if he has ever suffered from a disease which experience has shown to be frequently followed by dangerous sequelæ, why, the merest tyro in medicine would reject him, and the home office would simply have to indorse the rejection.

But all cases are not so easily disposed of. Certain individual peculiarities are sometimes met with, such as an abnormally frequent or slow pulse, with regard to which some companies are exceedingly strict. An unusually fast or slow pulse *per se* should not cause the rejection of an otherwise healthy man.

From time immemorial morbid characters of the arterial pulse have been ranked among the most important of objective symptoms. The pulse is a valuable aid to diagnosis, but it is sometimes misunderstood and misinterpreted. Many healthy persons are so constituted that nervousness or, more correctly, excitement, as the result of an examination, will cause an increase of fifteen or twenty beats a minute.

Tact on the part of the physician, by leaving this part of the examination to the last or counting the pulse the next day, will often make a vast difference.

Strange to say, the thermometer is rarely made use of by medical examiners; if there is a suspicion of fever, as in the so-called pretubercular stage, the temperature is of much greater importance than the pulse. A slightly frequent pulse, with no evidence of disease of the heart, ungs, or kidneys, has no pathological significance. The same may be said of functional slow pulse, within certain imits. A pulse below sixty-five is generally regarded as abnormal.

It has been said that longevity depends far less on race, climate, profession, mode of life, or food, than on heredi-ary transmission. This is a sweeping assertion and should not be made unqualifiedly. That tendencies or proclivities o certain diseases exist no one will deny; but, with the exception of phthisis, epilepsy, cancer, rheumatism, and gout n its fullest sense, we do not see the effects of hereditary nfluence so markedly in this country as they are observed n Europe, where generation after generation live under the same roof, drink the same water, eat the same food, and follow the same occupation. In this country people are continually changing their residence, their occupation, and, as circumstances will permit, their mode of life. If they lived the same life that their parents and grandparents did, they would be surrounded by the same influences, and doubtless would be subject to the same diseases to a certain extent. Some diseases seem to be endemic in certain localities. We all know how rheumatism prevails in one place, malarial fevers in another, and lung diseases in a third. These things are all to be taken into account in estimating hereditary tendencies.*

Not one man in a hundred will admit ever having had syphilis or stricture, although many will own up to gonorrhœa as an indiscretion of youth. Personal knowledge is sometimes of advantage in these cases.

No subject presents greater difficulties to a conscientious physician, however, than the use of alcoholic stimulants. Where is the line to be drawn between moderate drinking and over indulgence? In some cases there is absolute frankness; a man will say, "I take two drinks of whisky or two glasses of beer a day." More often, however, he will place the amount far below what is actually taken. Obviously, in these cases the home office is compelled to rely upon the honor and sagacity of their medical examiner, and he has to judge by the applicant's general appearance and previous habits in this regard. It is stated by Keating that, in spite of prevalent belief, consumption, cancer, apoplexy, paralysis, and disease of the kidneys show increase of mortality with advance of years, being greatest after fifty and sixty. This unqualified assertion is very misleading as applied to consumption. All authorities agree that phthisis is peculiarly a disease of young adults and early middle life. One has only to draw upon his own experience to corroborate this. Of 1,531 deaths between sixty and seventy reported to the New York State Board of Health for the year 1887, but 123 were from consumption.

If insurance companies generally would use one half of the care in selecting their local medical examiners that they do in preparing their examination blanks, and, after appointing an honorable, conscientious, scientific physician as their local examiner, would rely upon his judgment—subject, of course, to the rules and regulations of each particular company—in all doubtful cases, there would be fewer death losses to pay. Some examiners like to put the responsibility on the home office in these cases, but this is unfair to both the applicant and the company.

That accomplished author and physician, Oliver Wendell Holmes, says that "a diagnosis which maps out the physical condition ever so accurately is, in a large proportion of cases, of less consequence than the opinion of a sensible man of experience, founded on the history of the disease." We should be careful neither to overestimate nor to undervalue the information obtained by physical exploration, and in giving our final opinion we should strive to be just to the applicant and honorable to the company.

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* Perhaps I should modify this statement slightly as to physical iagnosis. Didactic lectures were given on this subject in my student ays, but the practical courses as now understood were special and exra. As to microscopy, it needs no qualification.

* Statistics collected in Europe with reference to the hereditary transmission of disease should never be considered as equal in value to those of this country, for the reasons set forth above.

ON STOMATITIS GANGRÆNOSA,

WITH SPECIAL REFERENCE TO ITS TREATMENT WITH LIQUOR FERRI SUBSULPHATIS.*

By J. D. SULLIVAN, M. D.,
BROOKLYN.

The majority of diseases of the mouth in children are attended by little danger and respond very readily to treatment, but the disease to which I desire to direct your attention in this paper is one of the most fatal affections of early life if allowed to take its usual course, unchecked by treatment; and yet it is quite easily curable if recognized early and the proper treatment is promptly applied.

Fortunately, the disease is exceedingly rare in private practice, but is quite frequently met with in public institutions where large numbers of children are housed together. It is described by different writers under various names, as cancrum oris, noma, necrosis infantilis, gangrene of the mouth, buccal anthrax, aqueous cancer of infants, scorbutic cancer, and sloughing phagedæna of the mouth. The disease appears to be more frequent in Europe than in the United States.

Many elaborate essays have been written on the subject by English, French, and German physicians, but outside the medical text-books there has been comparatively little written in this country. The only article which has come to my notice through our medical journals is a paper by Dr. Constantine J. Maeguire, of New York, read before the Yorkville Medical Association and published in the *Medical Record* of February 3, 1883. The disease is limited almost exclusively to childhood, occurring most frequently in children of from two to six years of age, and with diminishing frequency to the twelfth and thirteenth years. It generally attacks children who are in delicate health or those who are debilitated by other diseases, especially measles, whooping-cough, and pneumonia.

The majority of authors maintain that the disease is not contagious, but my experience leads me to believe that it is certainly infectious if not contagious. The beginning of the disease is usually manifested by an extremely offensive odor to the breath, with a tense tumefaction of one cheek or lip, and a pale and glistening appearance of the skin. There is but slight elevation of temperature—about 101° F. The pulse is soft and feeble. The expression is melancholy and the patient is indifferent to surrounding circumstances. On examining the mouth, a small, black, dry eschar, circular or oval in shape, will be found on the buccal surface opposite the most prominent portion of the swelling, whether it be on the cheek or lip. If not checked by treatment, this swelling gradually increases in circumference, sometimes in a few days; at other times more slowly, taking in the entire side of the face or even extending down into the neck. The internal eschar extends equally with the external swelling, and eventually it becomes more or less detached, leaving a hole in the cheek, and the adjacent tissues change as the gangrenous process advances.

In other cases the disease begins on the alveolar border of the gums, frequently at the seat of a decayed tooth, and as it advances the gums become swollen, soft, and livid; the teeth loosen and fall out; and as the gangrene progresses, the maxillary bones become involved in the necrotic process. Although the suffering is not proportionate to the gravity of the disease, and liquid nourishment can be taken very well, prostration becomes more and more profound and the appearance of the child is melancholy in the extreme.

The peculiar gangrenous odor from the mouth is present in every case, and as the disease advances the fœtor becomes extremely offensive. A microscopical examination of the gangrenous tissue shows that it contains large colonics of bacteria which appear to be infiltrated all through the diseased portions.

In the cases which came under my observation overcrowding or insufficient ventilation appeared to be the chief factor in the causation of the disease.

With this brief sketch relating to the character of this distressing affection, we will now consider its treatment, which is my principal motive in calling your attention to this subject.

Both local and constitutional treatment are urgently demanded. Stimulants, tonics, and the most easily digested food should be given as liberally as the patient will bear. An abundant supply of fresh air is absolutely necessary to the proper management of these cases. Although this point is not even mentioned in many of the text-books, it is very essential that the entire premises should be thoroughly ventilated. Local treatment is of paramount importance, and alone is capable of arresting the progress of the disease. Many authors recommend energetic cauterization with the most powerful agents—nitric acid, hydrochloric acid, carbolic acid, nitrate of mercury, and even the actual cautery. From my experience, I can not approve of the topical application of such strong caustics.

In the paper heretofore referred to, Dr. C. J. Macguire reported twenty-four cases of cancrum oris, the first four of which were treated in accordance with the orthodox methods laid down in the text-books, and still the gangrene continued to extend until finally the patients died. When his fifth case appeared he was in despair, and concluded "that following in the old rut of treatment was almost useless, if not quite so." He then conceived the idea of applying locally the subnitrate of bismuth. After thoroughly cleansing the mouth with a disinfectant solution, he covered the ulcerated surface with the bismuth, and the next day the progress of the disease appeared to be arrested and the symptoms were much improved. He then had the mouth washed with a solution of carbolic acid and the bismuth applied every three hours. With this treatment and the administration of the syrup of the iodide of iron, cod-liver oil, and a generous diet, his little patient was cured in less than two weeks. After witnessing the happy change effected by the bismuth he pursued a similar course of treatment in his following nineteen cases, and, although some of these seemed to be almost hopeless in the beginning, they all recovered. It is evident, from the accurate description given by Dr. Macguire of his cases, that he was dealing with genuine cases of stomatitis gangrænosa, and that he instituted a course of treatment that proved remarkably efficacious under his direction.

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* Read before the Kings County Medical Association, May 9, 1890.

In one of the largest orphan asylums in this city, to which I have been the medical attendant during the last twenty years, we have had about thirty-five cases of stomatitis gangrænosa. Of these patients, two died from the effects of the disease; the remainder recovered. Of the latter, two lost a portion of the lower jaw bone from necrosis caused by the gangrene, but there is no apparent deformity as the result.

My experience with the disease began in 1878, when a boy who had just recovered from measles contracted scarlet fever, and during convalescence from the latter disease was attacked by gangrene of the mouth. He was treated according to the usual method, but a portion of one cheek was destroyed before the disease was arrested. After a great deal of care and constant attention, during a period of about three months, he was restored to health, with but little deformity.

In September, 1884, Eddie S. was admitted. He was about three years of age and in very poor physical condition, and shortly after he developed gangrenous stomatitis. Notwithstanding the most vigorous and diligent treatment the gangrene continued to extend until one entire side of his face and a portion of his tongue sloughed away. In this most deplorable condition he lived for about two weeks, during a portion of which time it was necessary to carry his food into the pharynx with a tube or spoon to enable him to swallow it.

During the year 1888 we had seventeen cases of cancrum oris. Many of these followed an epidemic of whooping-cough. Of these, sixteen patients recovered and one died. Many remedies were tried during the progress of these cases—subnitrate of bismuth, naphthalin, hydronaphthol, salol, listerine, permanganate of potassium, tincture of iodine, and various disinfectant solutions at different times, and still recovery was very slow, extending over periods of from one to three months.

The application of naphthalin gave as good satisfaction as any other agent used, if not better.

During the year 1889 six cases came under my observation. All the patients recovered more rapidly. It was during the progress of these cases that I conceived the idea of applying liq. ferri subsulphatis, diluted with an equal part of glycerin, and the result was much more satisfactory than with any remedy heretofore used.

On the evening of April 1st of this year, while hastily making my usual visit through the infirmary, my attention was called to a boy about six years of age with a swollen face and a most horribly fœtid odor to his breath. On examining his mouth, I found the gums of a dark-purple color, soft, pulpy, and very much swollen, and the teeth loosened. I instantly recognized the same old enemy which had given us so much trouble in former years. A moment's reflection satisfied me that the proper thing to do was to remove the dead tissue and endeavor to arrest the gangrene. Grasping the gums between my forefinger and thumb, and pressing upon them, I found that the dead parts easily separated from the living tissue. In this way I removed the greater portion of the gums on both sides, with several of the teeth. Then, with a large camel's hair brush, I copiously applied a mixture of equal parts of liq. ferri subsulphatis and glycerin. This arrested the slight hæmorrhage and contracted the remaining diseased portions into firm shreds. Now, with pledgets of absorbent cotton held in the grasp of a forceps, I cleaned out the mouth and made another application of the iron solution. This was all done in a few moments, with very little pain to the patient and with but slight resistance on his part. The next day the boy presented a much brighter appearance, and the disease had evidently made no further progress. Apprehending that the gangrene might still be lurking where it was so active on the previous day, I gently curetted the alveolar processes and tooth sockets, removing all the diseased tissue, and washed out the mouth with a solution of sulphate of copper, half a drachm to the ounce of water, and then thoroughly applied the solution of iron and glycerin. I then gave instructions to have this repeated four times daily. On the following day the parts presented a healthy, granulating appearance, and there was but very little of the offensive odor remaining. The applications were continued for eight or ten days, and at the end of two weeks the parts were healed over and the boy was in good health minus his molar teeth.

Within the next nine days five more cases of cancrum oris were developed in boys whose ages ranged from three to six years. These were all treated in the same way as the last case, excepting that two, which were seen in the incipient stage, were not curetted. In these two cases the mouths were simply washed with the solution of sulphate of copper, and the iron mixture applied as in the other cases. In each case the gangrene was arrested within three days after the first application, and their recovery was complete within two weeks. Whisky and good nourishment were diligently administered to every case, and ample ventilation was provided for them.

In carefully considering the action of the many remedies which I have used in the treatment of this destructive disease, I am satisfied that, so far as my observation extends, the solution of the subsulphate of iron is the most efficacious. Diluted with an equal part of glycerin, it appears to combine with the diseased tissue, and either dissolves it or converts it into an inert, odorless substance, without irritating the healthy parts. It is powerfully destructive to organisms of a low vitality, therefore serving as a good germicide and antiseptic, and consequently we might infer that it would be a valuable agent in arresting a septic disease like gangrene. Even after the eschar has been dissolved or removed by the application of this solution, it appears to promote a healthy granulation of the parts, and hastens their restoration to a sound condition.

If time would permit, I might extend these remarks by reciting the details of each case more minutely, but it would simply be a repetition of what I have endeavored to picture to your minds, and would be unnecessary, as this paper has been hastily prepared with the special purpose of bringing before the profession the treatment of this affection by the removal of the diseased portions, and the topical application of the solution of the subsulphate of iron diluted with an equal part of glycerin.

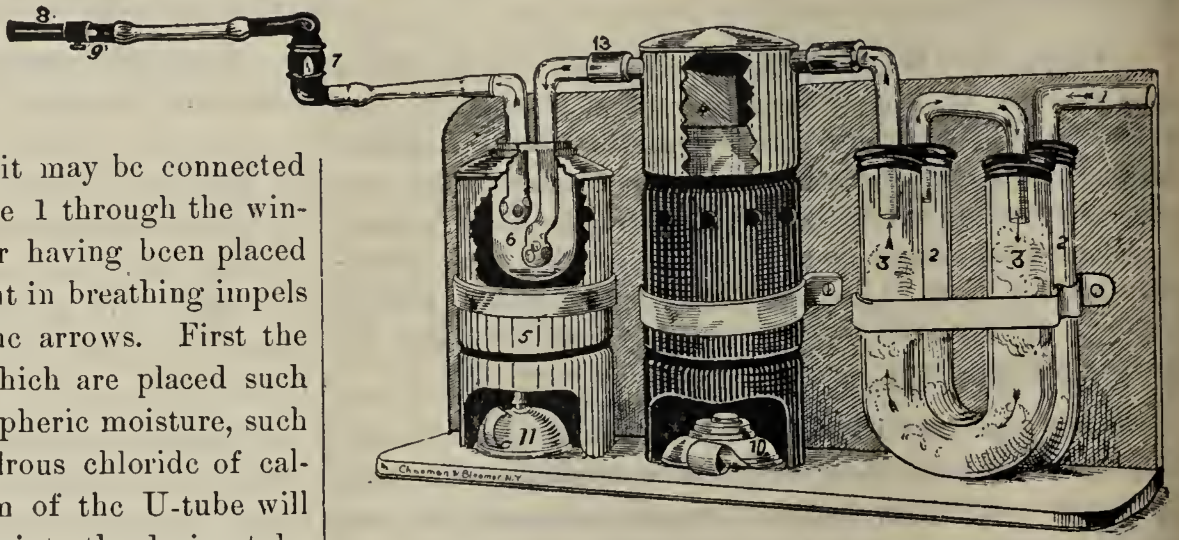
If others try it and obtain the same results that have attended my experience, many innocent children will be saved from a revolting deformity or death, and my efforts will be richly rewarded.

A VAPORIZER, SUBLIMER, AND AIR-STERILIZER.

By HERBERT F. WILLIAMS, M. D.,
BROOKLYN.

I deem the following propositions to be common ground of belief:

1. The respiratory avenues are influenced by various atmospheric conditions.
2. Systemic infection can be produced by the inhalation of germs or their spores.
3. Various gases and vapors are readily absorbed by pulmonary tissue.
4. The pulmonary tissue is capable of response to natural methods of antagonism to agencies which seek its disintegration.
5. Artificial means to produce Nature's methods must imitate her. In these propositions are the conception, birth, and elaboration of the instrument I now describe.



1, tube to connect with outside air; 2, 2 and 3, 3, U-tubes for holding drying agents; 4, diaphragm in hot-air drum to compel a free circulation of the air; 5, drum to hold vaporizing glass; 6, vaporizing glass; 7, gravity valve, unscrewing at center, with valve inside; 8, mouth-piece; 9, opening in mouth-piece with adjustable cover to regulate expiratory force; 10, lamp for sterilizing drum; 11, lamp for vaporizing drum; 12 and 13, connections.

The cut shows the vaporizer on its permanent shelf, which is sixteen inches long and ten inches high. It shows the vaporizer adapted to the left window casing, where it may be connected with the outside air by extending tube 1 through the window sash. With it thus arranged, or having been placed upon a suitable stand or table, a patient in breathing impels the air in the direction shown by the arrows. First the air enters the drying tube 2, 2, in which are placed such agents as have great affinity for atmospheric moisture, such as pentoxide of phosphorus or anhydrous chloride of calcium (absorbent cotton in either arm of the U-tube will arrest all optical impurities); passing into the drying tube 3, 3, the air may be made more dry, and any chemical impurity of the lime or the acid can be neutralized by making it pass through broken sticks of caustic soda. It now passes into the hot-air drum, in which it receives a sterilizing temperature, which, of course, expands it; from the hot-air drum it passes in divided currents into the vaporizing glass, in which may be placed the agent that may be deemed of service in any special case; passing over this, the air enters directly into the respiratory current through the breathing tube.

The mechanism, then, is briefly this: Air strained and dried, sterilized and expanded, is submitted to agents from which it will resaturate itself according to natural law. Air thus holding its full complement of moisture for these conditions in the form of gas becomes the respiratory medium.

The changes in density of intrapulmonary air, made by forcible expiratory effort, can be theoretically shown to be sufficiently great to recondense saturated intrapulmonary air. This can not be shown practically, but the inevitable mechanical effect is to make the saturated air impinge against its surroundings, causing it to permeate unused areas, and thereby utilizing well-recognized forms of pulmonary gymnastics. Such a device seems to me to be an imitation of Nature's way in preparing volatile products (for she uses no other) for rendering air serviceable for diseased conditions; and, after over two years of experience with its principles, I am convinced that whatever of good can be gained by voluntary inhalation can be afforded by its use, and my constant and increasing experience teaches me that this good may be not a little. The fault with our management of phthisis, other than climatic (which to the masses is denied), is that radical treatment is not instituted at once.

It will not do for one to admit that a catarrhal bronchitis can be inoculated into a tubercular process, and deny the value of antiseptic air to prevent such inoculation, if coinstantaneously employed, and if the focus of absorption is in a remote portion of the body. What more conservative and honest effort can be made than to secure, by the best means, a continuous asepticism of the lungs? There is a theoretical instant of septic absorption. To discover it may be impossible; to expect and guard against it is our bounden duty.

Nutrition, begotten of healthy appetite and digestion, furnishes a barrier of germicidal blood serum. Should this be regarded as of more importance than anything else, let it be remembered that it is only one of Nature's ways of protection, and that it certainly does not interfere with other necessary precautions.

There are fourteen hundred and forty minutes in each day, and any means, however potent for good, which can be brought to bear but a small fraction of this time is applied at a great disadvantage. Such is a practical difficulty with the pneumatic cabinet, with which initial energy can be developed in the air cell, and a thoroughness of intrapulmonary medication absolutely impossible by any other known means. Vicissitudes in the weather, even in a climate fortunately adapted to a given case, are such that a serious interruption in a progress toward health can be made. I have endeavored to make this instrument a practical and comprehensive means for home use, where nothing but the judgment of the physician or the indifference of the patient can prevent its frequent, and, if necessary, prolonged application.

My patients easily understand its principles and experience no difficulty in its operation, and this has been the experience of a number of personal professional friends who have used it in their practice.

Indications for its application can be inferred from what has been said; and I bespeak for its clinical work only such accomplishment as is made possible by therapeutic acumen and the judgment which shall direct its use in acute and chronic conditions.

As represented in the cut, it may be used simply as an air drier and sterilizer, for the delivery of warm or cold air, or with such agents as benzoic acid, camphor, calomel, etc., it may be used as a sublimer. Experiments with hot air *per se* began over three years ago; first, by slaking lime in a convenient apparatus for delivery to the patient's mouth. Then a central attachment was made to the present instrument, which would deliver air at nearly 400° F.; but the relative proportions of the instrument now shown are such that the maximum temperature of the air for the vaporizing glass is about 212° F., and in its transit through the breathing tube it becomes lowered to within a few degrees above the temperature of the mouth. A higher temperature can be gained by using lamp 11 in connection with lamp 10, and for aqueous solutions or for sublimation it will be necessary to use it.

The degree of air saturation with more pungent agents can at all times be regulated to the point of toleration by adjusting the flames of one or both lamps.

An increased scope for the principles here shown can be gained by multiplying the drying tubes and allowing compressed air from a condenser to flow through an intermediate elastic air chamber, so as to avoid interference with the gravity-valve, 7; moreover, such a device is necessary to assist in the increased inspiratory effort thereby produced. Air under such conditions will resaturate itself to the degree of toleration with little or no heat. Such a device I use in my office in connection with the pneumatic cabinet, and nothing, excepting the increased expense, need prevent its general domestic use; but the instrument here shown has proved itself of great clinical value, and, I think, must be regarded as an advance in the field already occupied by kindred devices.

From the encouragement I have thus far received from professional friends, I judge it may possibly find a more general use. In anticipation of this rather presumptuous forecast, I wish to forestall any accusation of egotism, and at the same time satisfy truth and parentage and certainly euphony, by giving it that portion of my name at once historical—viz., Franklin. Such manipulation of the air as I have here described can not require any further explanation, and any suggestion with reference to the use of agents seems superfluous; still it may save some little rouble if I mention the agents I have thus far used, and his I will do. I am quite sure that some new questions will arise if inquiry is pushed in the direction of the hydrocarbon series, especially the aldehydes, ethyls, and methyls.

Ten drops of the following agents or combination of any f them is the ordinary dose employed: Tincture of camhor, tincture of iodine, creasote, carbolic acid, eucalyptus il, Sylvester oil, terebene, benzoic ether, salicylic ether, araldehyde, balsams, guaiacol, volatile oils, alcohol, chloroorm, etc.

I beg herewith to acknowledge valued assistance in the mechanical construction from my friend and patient Mr. Walter C. Harlow.

THE LOCAL TREATMENT OF DIPHTHERIA AND SCARLET-FEVER THROAT.

By W. CHEATHAM, M. D.,
LOUISVILLE, KY.

I HAVE lately had much experience with the treatment of these affections, and have found that hydrogen peroxide, fifteen volumes strength, alone or combined with bichloride of mercury, gr. j to ℥ j, gives me better satisfaction than any other remedy. Hydrogen peroxide is a thorough antiseptic, besides acting mechanically in getting rid of the membrane; it does the latter in the later or most dangerous stage, for it is at this time that septic infection is more liable to occur. When the membrane begins to slough, the peroxide will, when applied with a mop or in spray or as a gargle, get behind it, and, by its action on the pus, free oxygen and carbonic-acid gas, thus displacing it; the membrane appears under its action to lose all its toughness and crumble. If used in the nose—and it is here where we get wonderful effect—the peroxide had better be made of about ten volumes strength, and if the bichloride is combined with it, make it only gr. ½ to ℥ j, or in very young children still weaker. Before closing, I must add that but a small quantity of the medicine should be bought at a time, as it degenerates rapidly unless kept on ice in a dark place, and not agitated. The hydrogen peroxide losing strength so rapidly makes it very difficult to get pure, so any one who should be disappointed in its action should not give up the use of it until he has surely tried the pure article. It will not, of course, cure all cases. Another point in its favor is, that when used in the throat it causes no pain. The action of the hydrogen peroxide, its thorough antisepsis, and the beautiful mechanical action in forcing pus from cavities, is well known. It should never be used in a cavity unless there is free vent, and especially when this cavity is about the neck; as such a volume of gas is liberated, such an accident as I came very near having is quite possible. An abscess of the parotid gland following scarlet fever had been opened by a small incision. I thought I would wash it out with a little hydrogen peroxide, which I proceeded to do. As a result, I had a tremendously distended sac, the child blue in the face, and nearly suffocated. A large, free incision set matters right in a moment. As an application, and, when the patient is old enough, as a gargle, pure or half and half with listerine, it is the best application in scarlet fever and follicular amygdalitis I know of.

Thiol in Skin Diseases.—"Thiol has been used by Professor Schwimmer, of Buda Pesth, in a large number of skin diseases with remarkable success. In herpes zoster, acne simplex, and rosacea, in moist eczema and in burns, he paints the affected part with a solution in distilled water, of the strength of 1 in 4, twice a day, not washing off the application for two or three days. In some long-standing cases the washing is still longer delayed. In some instances an ointment (1 in 3) was employed, and in other cases the dry powder itself."—*British and Colonial Druggist.*

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, AUGUST 23, 1890.

THE ÆTIOLOGY OF PERITONITIS.

This subject has recently been studied by Fränkel, and a summary of his investigation has been published in the *Centralblatt für Gynäkologie.* The following results were obtained from the investigation of fifteen cases of exudative purulent peritonitis. *Spaltpilze* were demonstrable in all cases of purulent peritonitis. In ten cases chain cocci were found, the same variety of streptococcus being found in nine of them, and more than one variety in two of them. The summary of the investigations contains the list of the different varieties of micro-organisms found, from which it appears that a streptococcus which is well known as an exciter of inflammation was found in all the cases but one, and was probably an important element in producing the disease. After the peritonæum has been infected by the micro-organism which excites inflammation, the morbid process proceeds rapidly and reaches its end quickly, in which case pure cultures of streptococci are found. If the case should not terminate quickly and fatally, other bacteria will wander from the intestine to the peritonæum, and, by means of the products of tissue change which are developed through their influence, will either cause destruction of the streptococci or else so influence their further development that there will be need of the most favorable conditions of nutrition in the bacteriological investigation of the streptococci contained in the exudate in order to produce any results by artificial nourishment outside the body. The author has always succeeded in cultivating the streptococci in a medium of glycerin-agar at an incubation temperature, and thinks that the failures of other investigators may have been due to insufficient precautions. It therefore follows that they were not in all cases justified in saying that the streptococci were absent because they failed to find them.

The streptococcus which has been referred to is considered identical with the streptococcus of erysipelas, and the author succeeded in producing erysipelas upon a dog's ear with it. The other varieties of bacilli which were found had the property of destroying albuminoid bodies, many of them also producing toxic substances which, even after the death of the bacteria, were very virulent to the organisms of animals, while cultures of streptococci which had been subjected to high temperature were harmless. Experiments were also made with chemical agents which produce peritonitis, including solution of iron and tincture of iodine. The resulting peritonitis was sero-fibrinous in character and free from bacteria. If the animals survived some time, gangrene of the intestines resulted with an invasion of bacteria. Prophylactic precautions are mentioned for anticipating peritonitis after abdominal section and in childbed, also the erysipelas which is so destructive to puerperal women.

THE PRESIDENT'S NOMINEE FOR THE SURGEON-GENERALSHIP OF THE ARMY.

The President has sent to the Senate the nomination of Colonel Jedediah H. Baxter to be surgeon-general of the army, to fill the vacancy caused by the retirement of Surgeon-General John Moore. Colonel Baxter entered the volunteer service in June, 1861, as surgeon of the Twelfth Massachusetts Infantry, was appointed surgeon of United States Volunteers in April, 1862, and was promoted successively to the ranks of brevet lieutenant-colonel and brevet colonel, the latter in March, 1865, his promotions having been made on account of faithful and meritorious services in the field. In July, 1867, he was appointed Assistant Medical Purveyor in the regular army with the rank of Lieutenant-Colonel, and was made Chief Medical Purveyor in March, 1872, being promoted to the rank of colonel in June, 1874. The experience of twenty-three years which Colonel Baxter has had in the administrative bureau of the medical department of the army has given him an exceptional fitness for the office of its chief administrator, and the knowledge that he has acquired of the medical needs of the army will, if his nomination is confirmed by the Senate, be of inestimable value to that arm of the service. It is true that other medical officers have a strong claim to the office of surgeon-general by reason of their longer term of service; for, although the ranking colonel, Dr. Baxter's term of service has been much shorter than the terms of several of the officers now in that corps. Nevertheless, with a view only to the fitness of a candidate for the office to which he is nominated, we believe that Colonel Baxter far outranks all others, and for the good of the service we hope to see his appointment confirmed.

MEDICAL AFFAIRS IN CONSTANTINOPLE.

The city of Constantinople has always been a tempting field for the illegal practice of medicine, although there exists a code of regulations which, if faithfully executed, would greatly reduce the number of unqualified practitioners. Under the Supreme Board of Health an official list has been drawn up, containing the names of all legal practitioners, and the pharmacists are forbidden to dispense the prescriptions of any persons not named in that list. As a further precaution, the physicians are directed to write their prescriptions on an officially stamped form or paper, which is issued to them by the Imperial School of Medicine, and which should bear the printed name and address of the prescriber. According to the *Chemist and Druggist*, from which the foregoing has been abstracted, there is probably no town on earth where patent medicines are consumed to such an enormous extent as in Constantinople; the nostrums coming from France take the lead of all others, then follow English, Italian, and German proprietary articles. Street venders dispose of considerable quantities of quinine confec tions and pastilles of santonin, and in the bazaars a lively trade is done in drugs for producing abortion, which are used to a large extent by the Turkish and Armenian women. The purchase of opium and hasheesh is almost unknown for private consumption, the trade being exclusively in the hands of wholesale merchants, and it may be observed that, whereas in the seventeenth and eighteenth centuries opium-smoking, in spite of strong prohibitive laws, was very common in Constantinople, very little of that vice is known to exist at the present time.

The Imperial School of Medicine has a strongly patriarchal character, and the tuition is almost entirely free. There are about three hundred students, the majority of whom are clothed and boarded at the expense of the government, but are bound, after the completion of their studies and examinations, to serve for a time in the army, either as pharmacists or as surgeons. The buildings now temporarily occupied by the medical school were formerly used as barracks, but they are beautifully situated in the center of a park, under the direction of a division general. The anatomical collections are exceptionally fine and the school might be described as well appointed and furnished, except for the neglect that is observed in the branch of chemistry, which appears to be the special care or concern of nobody. The chemical laboratory is hardly more than a nominal one, and nearly all the pharmaceutical students have to depend upon private resources for the prosecution of the practical part of their studies. The chemical department is under the direction of a brigadier general.

MINOR PARAGRAPHS.

TELEPHONE INSANITY.

A TALE is told by the Paris correspondent of the London *Daily Telegraph* that may suggest Mark Twain's account of how Hank Morgan's sixth-century wife came to bestow the name of Hello Central on her first-born child. The Paris story is as follows: A lady, about twenty-six years of age, employed in the chorus of one of the theatres, suddenly stopped in the middle of the rue des Petits-Carreaux and shouted at the top of her voice, "Hallo! hallo!" A crowd at once gathered around the young lady, who put her hands to her mouth and ears in telephonic fashion. "Is that you, Saint Peter?" continued she, as if speaking into a tube. "Right, give me my keys? What? You can not be bothered? Then send your commissionaire. I must get home!" She repeated this several times, and at last the spectators came to the conclusion that she was wrong in her mind. A constable took her to the police station, where she went on in the same way, declaring that she heard distinctly through the telephone the celestial music of Paradise, that she could hear Saint Cecilia playing the piano, and that the chorus was composed of cherubim. She was sent into a hospital.

ENTOZOA IN DOMESTIC ANIMALS.

DR. WILLIAM H. WELCH, in the *Johns Hopkins Hospital Bulletin* for July, says that entozoa are of great interest and importance, although they have been overshadowed by the study of pathogenic bacteria, and deserve careful attention. In the course of his examination of animals during the past two years he has obtained from the horse the *Spiroptera megastoma* from the stomach, the *Strongylus armatus* from aneurysms, and the *Gastrophilus equi* from the stomach; from the cow the *Actinomyces bovis* from tumors, the *Cysticercus tæniæ mediocanellatæ* from the heart muscle, the *Strongylus micrurus* from the lungs, and the *Filaria labiato-papillosa* from the peritonæum; from the hog an *Echinococcus* from the liver, the *Cysticercus cellulosæ* from the muscles, the *Echinorrhynchus gigas* from the small intestine, the *Trichocephalus crenatus* from the cæcum, the *Ascaris suilla* from the intestines, the *Sclerostoma binguicolum* from the liver and abdominal fat, and the *Strongylus paradoxus* from the bronchi; from the dog the *Tænia cucumerina*, *Tænia serrata*, and *Tænia echinococcus* from the intestines, the *Eustrongylus gigas* from the peritonæum, the *Strongylus* or *Dochmius trigonocephalus* from the small intestines, the *Trichocephalus depressiusculus* from the cæcum, the *Ascaris marginata* from the stomach, and the *Filaria immitis* from the blood; and from the rabbit the *Coccidium oviforme* from the liver and the *Cysticercus pisiformis* from the peritonæum.

OBSERVATIONS ON THE SECRETION OF BILE IN A CASE OF BILIARY FISTULA.

IN the *Proceedings of the Royal Society* Mr. A. W. Mayo Robson makes a careful report on the analysis and daily secretion of bile in a case of biliary fistula. He concludes that bile is probably excrementitious; that, while it may assist in the digestion of fat, it is not necessary to digest such an amount as is capable of supporting life and nutrition; that increase of body weight and good health are compatible with the absence of bile from the intestines; that its antiseptic properties are unimportant; that its supposed stimulating effect on the intestinal walls is not necessary for regular defecation; that more bile is secreted during the night than during the day; that the excretion is regular and unaffected by diet; that the pigment of fresh bile is biliverdin; and that supposed cholagogues (calomel, euonymin, rhubarb, podophyllin, iridin, turpentine, and benzoate of sodium) do not increase the excretion of bile, though carbonate of sodium in aerated water produces an increased flow.

DISINFECTION BY SULPHUR FUMIGATION.

DR. HENRY B. BAKER, the secretary of the Michigan State Board of Health, has written to the health officer of Detroit a letter called forth by a rumor that the latter was about to dispense with the use of burning sulphur in the disinfection of the rooms and appurtenances of persons affected with diphtheria. It will be remembered that the efficacy of such fumigation has lately been denied in case the sulphur fumes are not mingled with the vapor of water. Dr. Baker maintains that the few laboratory experiments on which this contention is founded should not be held to outweigh the experience of health officers in the restriction of diphtheria. He states, moreover, that it is not necessary to use water with the sulphur, but that the essential thing is to use enough sulphur—three pounds for each thousand cubic feet of space.

THE NEW JERSEY LAW REGULATING THE PRACTICE OF MEDICINE.

WE have heard considerable comment recently on the law of New Jersey regulating the practice of medicine that requires all physicians to pass an examination before a State board of examiners before they can be licensed, and imposes a fine of from fifty to a hundred dollars, or imprisonment for from ten to ninety days, or both, for practicing in the State without a license. The law is virtually the same as that regulating practice in this State, and to us it seems as fair as could be desired. Certainly it is not surprising that the citizens and physicians of New Jersey should desire the same protection that we have sought for for so many years.

THE DAILY BULLETIN OF THE BERLIN CONGRESS.

Under the general title of *Journal*, with the subtitles *Tägliche Mittheilungen*, *Daily Bulletin*, and *Bulletin quotidien*, a sort of daily programme of the Congress—for it was little else—was published for the use of the members during the session. The matter was arranged in three parallel columns, in German, English, and French. The English is somewhat peculiar, but it is intelligible. The publication is certainly interesting, and not the least charming in its advertising pages, in which "Oberst W. F. Cody" (Buffalo Bill) closes his announcement as follows: "Die Herren Mediciner und Anthropologen seien auf das bedeutende ethnographische und anthropologische Interesse aufmerksam gemacht, das diese Schaustellung während des Anthropologen-Congresses in New York und Paris hervorrief."

A MEDICAL COLLEGE AT MARSEILLES.

It may seem singular to us that Marseilles, with its population of about four hundred thousand, has no medical college. It has awakened to a realization of its deficiency, and has petitioned the Minister of Public Instruction to authorize the establishment of a medical faculty—a preliminary step toward a university—at the expense of the municipality. The consummation of the desire is being thwarted by the vigorous opposition of Montpellier, that fears for the prestige of its ancient university.

THE COLOR-SENSE AMONG THE CHINESE.

In the *China Medical Missionary Journal* Adele M. Fielde reports an examination of twelve hundred Chinese for the color-sense. Of six hundred women, only one was color-blind—for green; of six hundred men, nineteen were color-blind, and four of these were sons of the green-blind woman. The examinations were made with Thomson's arrangement of Holmgren's test. The results obtained among the men give the proportion usually ascertained in such examinations.

BUBONIC PLAGUE IN TURKEY.

The *British Medical Journal* announces that the Imperial Sanitary Board of Turkey has information of an outbreak of the plague at Kale-Daragehan, a village of two hundred and eighty inhabitants, and that forty-two persons have been attacked, with twenty-six deaths already. The reporter of the cases, Dr. Constantinides, personally observed many of the patients. He states that the disease is marked by inguinal, axillary, and retro-auricular buboes, with a temperature of 104° F. and a bluish cutaneous rash.

THE BRUNSWICK HOME FOR NERVOUS DISEASES.

A private institution at Amityville, Suffolk County, Long Island, named the Brunswick Home, is carried on under State license. It is distant from New York about thirty-two miles. It is constructed on the cottage plan. Persons with nervous or mental disease, acute or chronic, or addicted to alcohol or opium, can be accommodated at relatively low charges. The circular states that $8 to $12 a week are the regular terms for individual rooms. A school for idiotic and feeble-minded persons is embraced in the scope of the Home.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 19, 1890:

DISEASES.	Week ending Aug. 12.		Week ending Aug. 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever..............	40	5	40	12
Scarlet fever..............	28	2	18	3
Cerebro-spinal meningitis.....	3	2	2	0
Measles..................	109	8	104	13
Diphtheria................	36	11	34	16

The American Climatological Association will hold its seventh annual meeting in Denver, Col., on Tuesday, Wednesday, and Thursday, September 2d, 3d, and 4th, under the presidency of Dr. Charles Denison, of Denver. Besides the president's address, on Abnormal Intrathoracic Air-pressures and their Treatment, the programme includes the following items: Remarks on the Pneumatic Treatment of Disease, with Cases, by Dr. D. M. Cammann, of New York; Bilateral Pleurisy, by Dr. John H. Musser, of Philadelphia; The Physiology and Pathology of Breathing, by Dr. B. F. Westbrook, of Brooklyn; Exhibition of the Pneumograph and Graphic Methods for recording Diseased Conditions, by Dr. J. H. Kellogg, of Battle Creek, Mich.; A Comparative Study of the Climate of those Regions of Europe and America which are now in Vogue in the Treatment of Pulmonary and Nervous Diseases, by Dr. Leonard Weber, of New York; The Climate of Ajaccio, Corsica, by Dr. A. Tucker Wise, of Maloja, Switzerland; The Climate of the Hawaiian Islands, by Dr. Titus Munson Coan, of New York; Is Herpes Zoster a Cause of Pleurisy and Peritonitis? by Dr. R. G. Curtin, of Philadelphia; Report of Cases of Phthisis treated in Colorado, by Dr. S. E. Solly, of Colorado Springs; The Preferable Attributes of Climate for Consumption as applied to the Winters in Southern New Mexico, Southern Arizona, and Western Texas, by Dr. W. M. Yandell, of El Paso, Texas; Information about Desirable Localities for Winter Health Stations in Southern Arizona, by Dr. Thomas Darlington, of Bisbee, Arizona; The Climate of New Mexico as viewed by the Medical Fraternity there, by Dr. James H. Wroth, of Albuquerque; The Climate of the Great Salt Lake Basin, by Dr. A. C. Standart, of Salt Lake City; The Thermal Springs of Salt Lake City, by Dr. George W. Foster, of Salt Lake City; Mental and Nervous Diseases observed in Colorado, by Dr. J. T. Eskridge, of Denver; Mode of Life of the Consumptive Patient in High Altitudes, by Dr. P. B. Anderson, of Colorado Springs; The Relation of Climate to Pulmonary Hæmorrhage in Colorado, by Dr. Jacob Reed, of Colorado Springs; Practical Suggestions with Reference to Exercise of Consumptive Patients in Colorado, by Dr. S. A. Fisk, of Denver; The Injurious Effects of Over-exertion in Pulmonary Phthisis, by Dr. Karl von Ruck, of Ashville, N. C.; The Preferable Climate for Consumption as applied to Northern New Mexico, by Dr. W. R. Tipton, of Las Vegas, N. M.; Climate by Exclusion, by Dr. Francis H. Atkins, of Las Vegas, N. M.; Acclimation of the Consumptive to the Colorado Climate, by Dr. H. O. Dodge, of Boulder, Col.; The Influence of High Altitude Climates upon Youth, as determined by an Acquaintance with the Public-School System of Denver, by Dr. A. Stedman, of Denver; How to select a Proper Climate for Individual Cases of Phthisis Pulmonalis, by Dr. John W. Robinson, of Chicago; Fifteen Aphorisms embodying the Present Status of Pulmonary Consumption, by Dr. J. H. Tindale, of New York; Can Patients in whom Tubercular Disease of the Lungs has been arrested in High Altitudes return with Safety to a Low One? by Dr. Frederick I. Knight, of Boston; Study of Tuberculosis in the Criminal Classes, by Dr. William Duffield Robinson, of Philadelphia; Ocean Climate, by Dr. M. Charteris, of Glasgow, Scotland; The Climate of our Homes, Public Buildings, and Railroad Coaches, a Leading Factor in the Production of the Annual Crop of Pulmonary Diseases, by Dr. R. Harvey Reed, of Mansfield, Ohio; Relations of Certain Meteorological Conditions to Diseases of the Lungs and Air-passages in Colorado, by Dr. Henry B. Baker, of Lansing, Mich.; How far does Dryness of Atmosphere influence the Course or Treatment of Inflammatory Diseases of the Nasal and Pharyngeal Mucous Membranes? by Dr. E. Fletcher Ingals, of Chicago; The Essentials for a Successful "Closed"

Sanitarium in Colorado, by Dr. J. H. Kellogg, of Battle Creek, Mich.; and Selected Cases with Reference to Climatic Treatment, by Dr. H. A. Johnson, of Chicago.

The New Jersey Board of Medical Examiners, recently authorized by the Legislature, is announced as consisting of Dr. William P. Watson, of Jersey City; Dr. W. L. Newell, of Salem; Dr. Henry S. Wagner, of Somerset; Dr. George W. Brown, of Monmouth; Dr. Hugh C. Hendry, of Essex; Dr. A. Acbalaeker (homœopathic), of Morristown; and Dr. Eugene Tiesler (eclectic), of Essex. It is stated that the board will meet for organization on the first Tuesday in September.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 16, 1890:*

Wales, P. S., Medical Director. Detached from the Medical Examining Board and will resume present duty at the Museum of Hygiene.

Ames, H. E., Passed Assistant Surgeon. Ordered as member of Medical Examining Board in addition to present duty.

Sayre, J. S., Passed Assistant Surgeon. Detached from the Navy Yard, New York, and ordered to the U. S. Steamer Ranger.

North, J. H., Jr., Assistant Surgeon. Ordered to the Navy Yard, New York.

Barber, George H., Assistant Surgeon. Detached from the U. S. Receiving-ship Vermont and ordered to the Pensacola.

Wedekind, L. L. von, Assistant Surgeon. Detached from the Pensacola and ordered to the Vermont.

Anzal, E. W., Passed Assistant Surgeon. Assigned to temporary duty at Naval Academy to examine candidates.

itts, H. B., Passed Assistant Surgeon. Detached from the U. S. Steamer Pinta and to proceed home and wait orders.

tone, E. P., Passed Assistant Surgeon. Detached from the U. S. Steamer Independence and ordered to the Pinta.

Vhitfield, J. M., Assistant Surgeon. Detached from the Monitor and ordered to the Naval Hospital, Norfolk.

yers, Joseph, Surgeon. Ordered to the Naval Academy to examine candidates for admission.

right, George H., Surgeon. Ordered to the Naval Academy to examine candidates for admission.

mith, George T., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, and ordered to the U. S. Steamer Independence.

Vhite, S. S., Passed Assistant Surgeon. Detached from the Marine and ordered to the Naval Rendezvous, San Francisco, Cal.

Marine-Hospital Service.—*Official List of Changes of Stations and uties of Medical Officers of the United States Marine-Hospital Service om July 26, 1890, to August 12, 1890:*

awtelle, H. W., Surgeon. Granted leave of absence for fifteen days. August 8, 1890.

heeler, W. A., Passed Assistant Surgeon. Granted leave of absence for thirty days. August 5, 1890.

armichael, D. A., Passed Assistant Surgeon. Granted leave of absence for thirty days. August 2, 1890.

eckham, C. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. July 28, 1890.

mes, R. P. M., Passed Assistant Surgeon. Granted leave of absence for fourteen days. August —, 1890. To proceed to Shreveport, La., as inspector. August 5, 1890.

alloch, P. C., Passed Assistant Surgeon. Granted leave of absence for seven days. July —, 1890.

rry, J. C., Assistant Surgeon. To proceed to Wilmington, N. C., for temporary duty. July 31, 1890.

ith, A. C., Assistant Surgeon. Granted leave of absence for thirty days. August 11, 1890.

ung, G. B., Assistant Surgeon. Leave of absence extended twenty days on account of sickness. August 2, 1890. Upon expiration of leave, to proceed to New Orleans, La., for temporary duty. August 8, 1890.

impson, W. G., Assistant Surgeon. When relieved at Buffalo, N. Y., to proceed to Norfolk, Va., for temporary duty. August 5, 1890.

Letters to the Editor.

BLINDNESS AFTER CEREBRO-SPINAL MENINGITIS.

Cuba, N. Y., *August 15, 1890.*

To the Editor of the New York Medical Journal:

Sir: The case of blindness following cerebro-spinal meningitis with recovery after two years, reported by Dr. W. L. Stowell, is very similar to a case, that of my own brother. Some fifteen years ago he had a severe attack of cerebro-spinal meningitis. After he recovered sufficiently to get about it was found that he was ataxic, and that his sight and hearing were much involved.

He continued in that state without much change for about three years.

At that time he ran against a dipper of boiling water which was being dipped from a boiler into a tub.

All of the breast above the nipples was severely scalded. The scald healed without any unusual symptoms, and with the healing all the former troubles were cured.

He has since grown to be a strong and vigorous man.

H. F. Gillette, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 9, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Appendicitis.—Dr. F. W. Murray presented a young man whose case had been diagnosticated by a dispensary physician as perityphlitic abscess. The patient had come to St. Luke's Hospital, where a similar diagnosis was made. An operation was urged, but declined; on the following day the patient had changed his mind and his abdomen was opened by an incision three inches in length on the outer side of the right rectus muscle. The abdominal tissues were found matted together and thickened. The abscess wall was opened and a quantity of very fœtid pus was discharged. The inner wall of the abscess, which was intra-peritoneal, was formed by a coil of intestine. A smaller cavity was found, from which a fæcal concretion was extracted. It was also seen that the end of the appendix had sloughed away. A counter-opening was made in the loin above the ilium, through which a large drainage-tube was passed into the abscess cavity, which was then packed with gauze. The general peritoneal cavity was washed out and a glass drainage-tube was inserted and secured in the lower angle of the abdominal wound. Iodoform gauze and two sutures were used in closing the wound. The patient had done very well. In three weeks he was out of bed. Now he was perfectly well and had gone back to work. The speaker was rather glad he had made the error of making the incision somewhat too far outside the muscle; but for this he might have opened directly into the abscess and thereby have enhanced the danger of infection of the peritoneal cavity. Another point of note was the good condition of the patient, considering the state of things, and it went to show that it was impossible to predict exactly what would be found until the dissection was made.

Cancer of the Lip.—Dr. Willy Meyer presented a patient, sixty-five years of age, upon whom he had recently operated for cancer of the lip. The growth was very extensive and nearly the whole lip had to be removed except at either corner. Following the method of Dieffenbach, he had taken two flaps from the cheeks, cutting through the mucous membrane a quarter of an inch above, so that he could approximate both flaps perfectly. It was now ten weeks since the operation, and it would be seen that when the man's beard grew he would present a very good appearance.

Extensive Penetrating Wound of the Thorax; Dislocation of a Rib; Non-collapse of the Lung; Recovery.—The President presented a patient whose case, as reported by Dr. W. H. Ross, was as follows: A man, nineteen years old, a truckman, was brought into the Presbyterian Hospital, in the service of Dr. Briddon, on February 19, 1890. The patient was standing by a horse's head, urging the animal to start with a load of manure, when suddenly the horse turned, forcing the man against a fence, where he received the driving force of the end of the shaft in his chest. The shaft was somewhat pointed, but almost at once its diameter increased to two inches. It was thought that the shaft had penetrated the thorax about three inches.

On examination, it was found that the patient had sustained a wound in the skin two inches and a half by three, with its center over the fourth intercostal space, midway between the nipple and the axilla on the right side. The fourth and fifth ribs were separated to the extent of two inches and a half at the widest point, and the fourth rib was denuded of periosteum for three inches opposite the wound in the skin and displaced upward at the vertebral end. The intercostal muscles were torn asunder for a distance of six inches and the skin and fascia separated from the muscles for a distance of eight inches. The wound of the muscles must have been produced by the forcible separation of the ribs by the cart shaft. There was only partial collapse of the lung. During quiet respiration the lung did not quite come up to the opening, but during violent respiration it protruded through the opening from two to three inches. During inspiration the lung would sink back, and during expiration come up to the opening or protrude from it. The action, therefore, was exactly the reverse of the normal movement. The lung had remained of a pink color. The wound was occluded with iodoform gauze, the ordinary dressing being put on, then covered with rubber tissue and firmly bandaged. Very little reaction followed this serious injury. The temperature never rose above 101° F. There was no suppuration. The wound contracted rapidly and healed kindly by primary union and granulation. On the morning following the injury there was cracked-pot resonance, with many creaking sounds, gurgling râles, and a feeble respiratory murmur over the lung of the affected side. There was a moderate blood-stained expectoration. This ceased in a few days. The respiratory murmur steadily improved and the creaking and crepitant râles became less marked. The patient was able to leave his bed in three weeks, and since then had been about the ward. Physical examination, made six weeks from the date of injury, showed the percussion resonance slightly sonorous over a space three inches in diameter corresponding to the wound in the chest. The breathing was somewhat sibilant there. The difference in expansion of the sides of the chest was only a quarter of an inch. In all other respects the physical examination was negative.

Dr. A. G. Gerster had observed in a case of sarcoma of the rib in which he had seen the pleural cavity opened that when this was done the lung had collapsed and curled up at its edges. A very considerable portion of the pleural cavity had remained full of air. There had been no wound of the lung in that case.

Dr. Gerster, referring to Dr. Murray's case of appendicitis, said he had lately paid a good deal of attention to the distribution of the abscesses which were most frequently met with in this region. In most cases the classical site of selection was near Poupart's ligament, close to the parietal peritonæum. Then the abscess was apt to become subcutaneous, and the opening and drainage was a simple matter. The next most frequent place he had found to be a point corresponding to the right rectus muscle, within the peritoneal cavity and beneath the muscle itself. He had three times made a median incision for exploratory purposes. This incision would tell the surgeon where to attack the abscess so as to avoid opening into the peritoneal cavity. He had not learned to regard with indifference an interference with the peritoneal cavity, and thought that good surgery required that one should try to get at such abscesses without involving it, if possible. To ascertain whether this could be done he had made the exploratory openings, as stated. He believed that the technique of operating properly in perityphlitic abscess was not yet developed, and that this could only follow very careful study of the history of such cases, especially as to the locations most commonly the site of the abscess and the directions in which they tended to spread. The appendix was a very movable body, and certain variations must be expected, but still there were rules which would govern these cases which ought to be studied.

Dr. Robert Abbe thought it was a question as to whether the entire vermiform appendix should be removed in every case. In the event of existing perforation of the distal end only, he should be inclined to leave the stump.

Dr. Murray said he should certainly have removed the entire organ in his case if he could have done so, as he considered it increased the chances of recurrence to leave any of the diseased organ behind.

Dr. Gerster thought that recurrence of true perityphlitic abscesses was not common. Many of the so-called relapses really resulted from imperfect drainage at the first operation and the establishment of sinuses and pockets which favored the redevelopment of abscesses in the presence of any exciting cause. Cases of true relapse did, however, undoubtedly exist.

The President thought the treatment followed by Dr. Murray was the best which could have been adopted. He should hesitate very much to make any dissection in searching for the appendix, lest he might infect the general peritonæum. He would rather risk the recurrence of the disease. It was ver important to avoid, if possible, opening into the peritoneal cav ity in these abscesses.

Colotomy.—A discussion on this subject having bee started, Dr. George A. Peters agreed that the operatio should be done as early as possible. He had had more experi ence with the lumbar operation than with the anterior one The benefit derived was often very marked. In a case whic he recalled, the patient, until he had submitted to it, had bee a great sufferer. From that time on, during the three or fou months that he had lived, his existence was fairly comfortabl During this period the bladder had become involved and fæca matter had found its way into the urine occasionally. Still th man had been relieved from all his great distress.

Dr. Abbe suggested the employment of cocaine anæsthes in these operations, believing that its use would obviate the to frequent fatal results traceable to shock. He had made use this method in a case some two years before, and with the ha piest results. The patient had watched the removal of a larg quantity of fæcal matter. Relief from distention had been i mediate, and the young man had made a perfect recovery. Th patient could not have withstood general anæsthesia and shoc It might not be a suitable method when a great deal of manip lation was necessary. He had employed cocaine three times opening the abdomen, and in one case *in extremis*.

Dr. B. F. Curtis thought that surgeons were apt to err the direction of refinements of technique in this operation.

was not necessary to put in many stitches if the opening into the intestine was not made at the time. Two or three would hold the gut in position with the aid of a stout thread passed through the mesentery.

The **President** thought it was of decided advantage to make an opening through the muscular tissue. There was less likely to be prolapse, as it acted as a sphincter.

Dr. **Meyer** said he had performed a similar operation in babies who had been born with imperforate anus. In such cases it was necessary to decide between anterior and posterior colotomy. If the children recovered they were better off with the inguinal opening, as a pad could be more readily applied. Still, the fæces could be better retained after the lumbar incision.

The **President** said he had never had any trouble after lumbar colotomy. Patients had no trouble in retaining fæces except after some error of diet. Some of his patients were living who had undergone this operation eight or ten years ago.

Dr. **Gerster** said he had done the operation quite a number of times and had found it to be a very excellent one. The several steps were comparatively easy under all circumstances. He was one of those who had once incised the small intestine instead of the large one, through the lumbar opening. Since then he had always preferred inguinal colotomy. It put everything in the hands of the operator. As to complications and difficulties, he thought the majority of the cases in which colotomy was done were not those in which the patients were *in extremis*. He thought the operation at one sitting gave the better technical results. The incision should always be transverse. He had had some cases of prolapse and they were very disagreeable. To avoid this, care should be taken to select a piece of mesentery of proper length. If it was too large, the gut should be dragged back and another section of intestine sought for with a mesentery of suitable length.

Tumor of the Bladder diagnosticated with the Cystoscope.—Dr. **Meyer** presented a tumor which he had removed from the bladder of a patient fifty-five years of age. In this case the diagnosis had been made by means of the cystoscope. The patient had suffered for a long time from hæmaturia. When consulted, the speaker, instead of using a sound to search for stone, had at once tried to introduce the cystoscope under cocaine anæsthesia. This he had found impracticable, and three days subsequently had given the patient chloroform. He had then made out with the utmost certainty the growth on the left wall of the bladder. He could also see the blood oozing from it. The result of the operation had been to confirm the diagnosis so made. The tumor, on being removed, was found to be malignant.

RICHMOND, VA., ACADEMY OF MEDICINE AND SURGERY.

Meeting of July 8, 1890.

The President, Dr. W. W. **Parker**, in the Chair.

(*Reported by Dr. J. W. Henson, Richmond.*)

Speech and Locomotion Absent in a Child Three Years and a Half of Age.—Dr. J. N. **Upshur** reported the history of a case of a child unable to walk or talk at the age of three years and a half, although apparently perfectly developed physically and to a casual observer as bright mentally as any child—in reality, however, being several months or a year behind the average. The expression of its face was a little more childish than the age demanded.

There was, he said, a remarkable suppleness about the hip joints, the child being able to abduct the lower limbs until at right angles with the trunk, or flex them until flat upon the abdomen. It possessed a good appetite, was perfectly well nourished, though constipated, and had resisted well two or three severe attacks of sickness. It had a remarkable aptitude for the appreciation of musical sounds. The child's teeth exhibited great irregularity in their manner of eruption, appearing here and there at haphazard around the dental arch.

The speaker knew of no cause for the state of affairs, except that the mother, when pregnant with this child, was subjected to considerable mental and physical worry on account of the illness of an older one. He would like to know the chances of its attaining the power of speech and locomotion. Was the condition the result of lack of nervous power, and would benefit accrue from the use of electricity and massage?

Dr. J. **Michaux** asked if there had been any convulsions.

Dr. **Upshur** replied that there had been none.

Dr. C. L. **Cudlipp** asked if all the pelvic bones were normal.

Dr. **Upshur** replied that they were.

Dr. **Michaux** thought the case one of arrest of development from lack of brain or nervous organization, and that there was little chance for mental development under such conditions.

The **President** thought that a child of three years would learn to talk.

Dr. **George Ben Johnston** believed the case, from the history, to be one of mild rickets, and he was sure that by an active tonic treatment in which the hypophosphites were involved, massage (particularly), electricity, and strict attention to hygienic surroundings, much good could be done for the child's bones. He thought it would walk, and did not believe the inability to speak necessarily serious.

Veratrum Viride in Puerperal Convulsions.—The **President** reported having used in a case of puerperal convulsions, occurring two or three weeks before the expected time of labor (besides the usual plan of venesection and chloroform), tincture of veratrum viride, administering fourteen drops early, and afterward five drops every two hours. Dr. Hugh M. Taylor, in consultation, had recommended enemata of bromide of potassium and hydrate of chloral in large doses. The patient was successfully relieved, but labor commenced two or three days afterward, and under chloroform the patient gave birth to a live child of eight months' gestation, large but feeble. The speaker had great faith in veratrum viride for the relief of convulsions.

Dr. **Albert Sneed** had recommended it in ten-drop doses every two hours.

Cholera Morbus rapidly Fatal.—The **President** stated that a Mr. V. had summoned medical aid about 2 A. M. on Wednesday. By 3 P. M. on Thursday he was dead. Before death the vomiting and purging became excessive, and a convulsive movement of the lower extremities manifested itself. The victim had been robust and perfectly healthy all of his life, except for an anal fistula some years ago. The speaker had been the family physician, but, being out of town, another doctor was called, who reported the case to him. He thought the action of the vagus had been inhibited by the intense heat, the man's work keeping him much in the sun.

Chloroform vs. Opium in Intestinal Inflammations.—A short time after V.'s death, continued the **President**, his son was stricken down. After the first day or two of illness he complained of very little pain. The speaker, accepting the case only the day before death occurred, found him quiet, pulse 120, and temperature 101° ; but, though there was no pain, except upon deep pressure, it was then severe and the abdomen was retracted—two bad features. Late the next day the boy was in collapse, death soon following. A post-mortem examination revealed the ascending colon pushed obliquely across the abdomen by the greatly distended and inflamed small intestines, which here and there showed adhesions and exudations (some as large as a fifty-cent piece) about to undergo organization. In fact, a severe general peritonitis had existed, a pint of pus being in the cavity of the peritonæum.

The speaker believed the lack of pain due to the amount of morphine given by the physician first in charge. He objected to such large doses of the drug, and mentioned in connection a fatal case of intestinal inflammation to which he had been called at Old Point. The physicians called in before him had probably administered large doses of morphine. He found the man in collapse, perfectly quiet and indifferent. No amount of stimulation or other means used produced any reaction. He believed large doses of opium would not only prevent reaction, but increase congestion. He thought the pain of these cases very largely due to spasm of the muscular layer of the bowel, and therefore would just as readily and much more safely be relieved by chloroform (by inhalation and internally), together with stimulants.

Dr. JOHNSTON asked if there was any *débris* of food in the colon, particularly about the cæcum, in the post-mortem case mentioned.

The PRESIDENT replied that there was none.

Irritation from Calomel and Castor-oil.—Dr. UPSHUR believed there was something back of the opium in the president's case. He thought the purgative action from large doses of calomel (such as fifteen grains) and the castor-oil following it would add to the irritation and congestion. The kind of congestion referred to by the president would be aggravated by opium, but he considered the drug beneficial in passive congestions, such as occurred in the latter stages of typhoid fever. He had been interested in the president's case of puerperal convulsions, because the child was born alive. He always expected a dead child after convulsions. The speaker believed it the imperative duty of every physician to make periodical examinations of the urine of pregnant women in his charge, and to inquire into the amount of water passed *per diem* and the condition of head and vision. There might be double vision, intense headache, and scanty urine without albumin, and yet convulsions. He remembered a patient of his who complained of severe headache two weeks before confinement, no albumin being present and no impairment of vision. Just after completion of labor she had been threatened with convulsions. The prompt and continued use of chloroform, however, had warded off the attack. The skin had been hot and dry. Bromide of potassium and pilocarpine were administered in repeated doses, until a profuse perspiration was induced, with relief of head symptoms. Examination of the urine now showed thirty-three per cent. of albumin. The patient had made a complete recovery. He mentioned another case in which he had had the same experience with pilocarpine. He knew the objection to it—that it was depressing; but why object to it, and recommend veratrum viride? For the immediate relief of convulsions he used morphine and atropine hypodermically, besides the lancet and chloroform.

Dr. LANDON B. EDWARDS thought that Dr. Upshur had given the true cause why some physicians had so many cases of puerperal convulsions. The maxim of Dr. Owen, of Lynchburg, was: "Watch the woman as you would the training of a child." Though convulsions did not always follow the symptoms, yet they should be accepted as warnings.

As a prominent symptom he mentioned the morbid appetite in the latter stages of pregnancy. First quiet the alarm of the patient, then direct attention to the kidneys. He, too, highly recommended pilocarpine if the patient was strong enough to cough up or call attention to the accumulation that would occur in the bronchial tubes.

Erratic Pain in Labor.—Dr. JOHNSTON had been called, fifteen or twenty days before her expected delivery, to a woman, the mother of four children (good labor each time), who complained of a severe pain, paroxysmal in character, occurring on the right side of the neck and extending down upon her chest to the margin of the axilla. The speaker, suspecting the approach of labor, asked an examination, but was refused. Early the next morning he was called again, and found the child born. The pains had increased in length and intensity, the intervals growing shorter until there was suddenly a gush of waters, the birth of the child immediately following. The woman had not a single uterine or abdominal pain, and did not in the least suspect the real condition of affairs.

Scirrhus of the Rectum in a Child of Thirteen Years.—Dr. MICHAUX had been treating a child of thirteen years for ulcerated rectum for some time with no benefit. He had decided upon an examination of the parts, which he had made with the patient under chloroform. About two inches above the anus he had found a band two inches and a half in width nearly closing the caliber of the bowel. It was hard to the touch, but tore upon pressing the finger through it. There was some inguinal enlargement. Every motion of the bowels caused violent pain, and this examination induced so much as to render the use of opiates necessary. The general appearance of the boy suggested malignancy, and the doctor believed it such, though he had never seen or known of a case in so young a subject.

Dr. UPSHUR, refusing to believe in malignancy at that age, thought Dr. Michaux would find that some previous proctitis had produced the band of lymph present, or that there was some history of syphilis back of the trouble. He had seen such a case in a woman of decided syphilitic history, there being acute pain upon defecation. He had performed repeated cuttings and dilatations. Her health had ultimately given out, death following soon. He would suggest alteratives, such as iodide of iron, etc.; and nutritious but fluid diet. The rectum might be washed out with warm water and boric acid. The pain could be relieved by suppositories medicated with cocaine or enemata of glycerin and cocaine.

Dr. WHEAT thought Dr. Michaux had better look after a probable syphilitic history. He related the histories of two cases of his own. He found that a constitutional treatment involving potassium iodide particularly gave decided relief. Though the trouble returned, this treatment relieved each time. He had no faith in operative measures in such cases. Had tested that plan.

Dr. MICHAUX had neglected to say that the child's grandfather had died of cancer. He would, however, take advantage of the encouraging suggestions. He would obtain some of the growth for microscopic examination.

[Since the meeting Dr. Upshur has found, upon stripping the little girl of three years and a half whose condition he reported, that there was a uniform atrophy of the muscular system. He has given her the benefit of massage and electricity for ten days. Improvement has manifested itself by the more ruddy appearance generally, and the toning up of the muscles.]

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN PATHOLOGY.

Meeting of May 2, 1890.

The President, Dr. E. H. BENNETT, in the Chair.

Diphtheritic Micro-organisms.—Dr. MCWEENY showed a section through the epiglottis of a child who had died in the

Mater Misericordiæ Hospital from post-scarlatinal diphtheria. The patient had been admitted in the desquamation stage of scarlatina suffering from a bad throat and albuminuria. After death the mucous membrane of the upper part of the larynx was found coated with a thin layer of greenish-gray exudation.

The sections exhibited showed numerous micro-organisms in irregular masses, and also scattered through the almost structureless membranous exudation. Some of these were cocci, others bacilli; the cocci were scattered or in pairs, the bacilli were smaller in size than the Klebs-Löppler diphtheria bacillus, and were certainly not the same species, as, in addition to the difference in size, they also differed in the fact that the bacillus found by Dr. McWeeny stained readily by Gram's method, whereas the Klebs-Löppler organisms was at once decolorized by iodide of potassium. Cornil and Babes also described organisms found in cases of pseudo-diphtheritic laryngitis after scarlatina, but they seemed to have found chiefly cocci.

Dr. McWeeny also showed a cover-glass preparation of a pure culture of the Klebs-Löppler diphtheria-bacillus showing the so-called "involution forms," and referred to the recent researches of Spronck into the subject, which had quite established its pathogenicity. A sterile filtrate of a pure culture would cause paralysis closely resembling the metadiphtheritic in the human subject, and also albuminuria in rabbits.

Multiple Abscesses of the Liver.—Dr. Joseph Redmond submitted a case of multiple small abscesses of the liver.

Mrs. E., a married woman, was admitted into the Mater Misericordiæ Hospital on the 27th of February, 1890. The patient was anæmic, wasted, and somewhat jaundiced in appearance. She complained of severe pain over the liver, and stated that she suffered from gall-stones. Her stomach was irritable, no food having been retained for some days, the vomited matters yellow and bitter to the taste. The bowels were constipated, and the last motions observed were somewhat light in color. Her tongue was furred; temperature, 98°; pulse, 100; respirations, 24. The liver was enlarged and tender on percussion. The spleen was also enlarged, and could be felt below the ribs. Some days after admission she suffered from rigors; temperature, 103°; pulse, 148; respirations, 36; signs of pleuritis being detected over left bases. The patient died on the 12th of March.

The post-mortem was made by Dr. McWeeny. The right and left pleural cavities showed evidence of acute inflammation The liver was enlarged; numerous small abscesses were detected, more especially in the left lobe. The gall-bladder was full of small angular calculi. The cystic duct was thickened but patent. The common bile duct was blocked by a calculus lying immediately behind the duodenal mucous membrane.

Dr. McWeeny said that he suggested the somewhat wild hypothesis that the gall-stones might have caused ulceration of the common bile duct, and that micro-organisms might have made their way up, in spite of the supposed antiseptic action of the bile, and spread into the ordinary liver substance; but his belief was that the case was pyæmia.

The President said he regarded the abscesses in question as pyæmic.

Dr. Redmond, in reply, said he had no remark to make save that the gall-bladder contained no pus.

Round-celled Sarcoma of the Testis.—Dr. McWeeny showed a tumor of the testis removed at the Mater Misericordiæ Hospital in January last by Mr. Chance. The patient, aged about thirty, had first noticed the swelling about two years previously, and it had since increased gradually and painlessly with absence of testicular sensation. No tubercular or syphilitic history of patient or family; no history of injury. The testis was enlarged to the size of a medium-sized orange; its shape was globular; its consistency hard. On section, the substance was white, mottled with yellowish patches, which looked to the naked eye like caseated portions, and which on microscopic examination were fatty degenerated and almost devoid of structure. There was no trace of tubercular new growth. The white tissue consisted of *cells* and a *stroma*. The *cells* were largish, oval, uni-nucleated, and offered little or no variation in size or shape. They did not lie in actual contact, but each was separated from its neighbor by a small quantity of homogeneous intercellular substance. Their characteristics were, on the whole, those of the connective tissue rather than of the epithelial type.

The stroma was trabecular in character, the main trabeculæ being comparatively thick and running a straight course through a considerable part of the sections. From them were given off more delicate bands, which in their turn gave origin to still more delicate ones—the same structure prevailing throughout—viz., round and spindle-shaped nuclei of various sizes, with little or no approach to the formation of fibrous tissue. The ultimate trabeculæ consisted of but one or two rows of spindle cells placed side by side and end to end. They were clearly distinguishable from the oval cellular elements above mentioned, which lay in groups of varying size—about a dozen together as a rule—in the ultimate meshes of the stroma. He was in some doubt as to whether the stroma did not represent that which, in the normal testis, starting from the mediastinum, runs between the lobules—in which case it would seem to have increased *pari passu* with the tumor, or whether it was of entirely new formation, in which case the specimen would have to be looked upon as one of alveolar sarcoma—a neoplasm of some rarity in that situation.

Dr. Patteson said that, judging from the general distribution of the stroma and the character of the cells, this disease was much more distinctly a carcinoma than a sarcoma.

SECTION IN SURGERY.

Meeting of May 9, 1890.

Mr. Edward Hamilton, F. R. C. S., in the Chair.

The Surgery of the Brain.—Mr. Thornley Stoker read a paper on two cases of brain disease on which he had operated during the session.

The first he detailed was treated jointly by Dr. O'Carroll and himself. It was a case of abscess in the right temporal lobe, depending on disease of the ear. Pain, retraction of the head, and right anosmia were the leading brain symptoms. The patient, a girl of eighteen, was dying from pain, and operation was determined on, although symptoms did not show clearly whether the temporal lobe or the cerebellum was the seat of disease. On March 9, 1890, the brain was exposed with the view of exploring the cerebellum, if pus should not be found in the temporal lobe.

The trephine opening was placed, with the purpose of exposing the second temporal convolution, with its center an inch and a quarter behind the external meatus and an inch and a half above this base line. Mr. Thornley Stoker spoke of the mistake made by Mr. Barker in placing the point to expose the second convolution too low down—viz., an inch and a quarter above the base line—and he demonstrated, by a number of Professor Cunningham's models and drawings, kindly lent for the occasion, that the point indicated by Mr. Barker could only expose at the highest the inferior convolution, and might even endanger the lateral sinus. He expressed his intention in future of operating an inch and three quarters above the base line, at which height only there would be reasonable certainty of exposing the second convolution.

Nine exploratory punctures were made in different directions, and on the ninth, at a distance of an inch and a half from the surface of the brain, pus was found, to the amount of two to three drachms, lying above the tentorium, in a direction downward, inward, and backward from the trephine opening, at the junction of the under surfaces of the temporal and occipital lobes.

The patient, who had passed through several dangerous and interesting periods since operation, was now, three months after the trephining, alive and doing well. And, although she had lost several drachms of brain matter by sloughing and by the removal of a hernia cerebri, she suffered no paralysis or impairment of any kind, the sense of smell being restored and all her symptoms relieved.

The second case, treated jointly by Dr. Nugent and Mr. Thornley Stoker, was one of a spindle-celled sarcoma of small size situated in the superior and back part of the right parietal lobe of a man aged forty-two.

It had given rise to tonic spasms of the left side, commencing in the leg and gradually invading the trunk, upper extremity, and face. Spasm was followed by paralysis, occurring in the same order from below upward.

The patient was operated on, the leg and arm centers being exposed, but the tumor was not discovered, as it lay at the extreme back of the leg center, and was of the same consistence as the brain substance, so that instruments passed through it without resistance. The removal of pressure afforded by the operation gave temporary relief. The patient, who was nearly comatose and quite hemiplegic, recovered consciousness and partial power in the side, but died three weeks afterward.

The chief points of interest in the case were: 1. The irregular position of the spasms, which sometimes engaged the upper extremity without the lower, although the tumor proved to be remote from the arm center. Mr. Stoker dwelt on the matter of what he termed "referred" pressure as an important and confusing factor in such cases. 2. That the position of the tumor pointed to the extension backward of the leg center into what had been regarded as a doubtful region. 3. That the case showed the leg center to be behind that for the thigh. 4. The absence in this instance of three of the four classical symptoms of brain tumor—viz., optic neuritis, fixed headache, and vomiting; only the fourth, hemispasm, being present.

Dr. Birmingham communicated a preliminary report of an investigation which he was carrying on into the surgical anatomy of the parts engaged in the operations of trephining in mastoid and tympanic disease. The following were the chief objects kept in view in the investigation: 1. The anatomy of Mr. Wheeler's operation, which opened the cranial cavity and the mastoid cells at the same time by one trephine hole. 2. The exact relation of the mastoid antrum to the surface. 3. The position of the lateral sinus, how to find and how avoid it. 4. Whether there was (anatomically) any danger in opening the mastoid cells immediately behind the meatus. Many specimens were shown illustrating the points considered, and a full report was promised in a short time.

The Chairman observed that before brain surgery could make any steady, useful advance there must be something like anatomical certainty; and he regarded the contributions of Mr. Stoker and Dr. Birmingham as valuable anatomical data.

Mr. Patterson said he had himself, like Mr. Stoker, proved the unreliability of Barker's lines. He had had a case in St. Vincent's Hospital in which it was decided to trephine the temporal lobe of the brain; and taking a quarter of an inch higher than Barker's line in order to make perfectly sure, he had had great difficulty in removing the disc of bone, and when he succeeded he found that the lateral sinus was exposed and occupying one third of the available space, thus showing clearly that Barker's lines were unreliable. A limited post-mortem examination proved that the diagnosis was unfortunately incorrect, and that the case was one of long-standing otorrhœa; but the course adopted seemed to be the only possible one of saving life. However, as applicable to the surgery of the brain, the point was that the lines of demarkation chosen resulted in exposing about half an inch of the upper border of the inferior temporo-sphenoidal convolution.

Mr. Tobin, referring to Dr. Birmingham's observations, recalled Mr. Wheeler's remark on reading his communication to the section as being to the effect that the opening which he made was one from which the tympanum might be reached, and not one for the purpose of exposing the tympanum. As regarded Mr. Stoker's communication, he asked, assuming in the first case detailed that the abscess was secondary to caries of the temporal bone, whether it would not have been advisable, after reaching the abscess, to adopt means for getting rid of the primary disease, so that further secondary abscesses might not form. Thus, a secondary trephining operation might be adopted for the primary disease. Another moot point was as to the advisability of using the aspirator to empty a pus cavity of the brain, the tendency of the structure being to break down and, from the use of the aspirator, to give rise to more pus.

Mr. Stoker, in reply, was glad to find that his observations had been indorsed by Mr. Patterson's experience. There could be no doubt that an examination of Professor Cunningham's diagrams and casts would show that, instead of going an inch and a quarter above the horizontal line, as Barker recommended, or an inch and a half, as he himself had gone in one of the cases under consideration, the operator might go an inch and three quarters. He cordially agreed with Mr. Tobin's view as to the desirability of treating the primary disease; and in operating in the case of the temporal abscess, he was prepared to trephine the mastoid process with that object, but he did not find it desirable for several reasons. He looked forward to doing it, as at present the ear was suppurating, and required to be washed out twice daily with corrosive-sublimate solution. It was obviously proper to remove the cause of the disease, as well as the secondary evidence of it. As regarded the use of the aspirator, the case was one of the first in which he operated for an abscess in the brain, and he used the aspirator, but with the result that he made up his mind that he ought not to use it again; that it was calculated to do violence to structures, and that it was totally unnecessary. The brain exercised such pressure that as soon as the abscess was opened it closed the walls together, and the pus was pushed out with as much force as was desirable. So that the aspirator was unnecessary and might be injurious.

Dr. Birmingham, in reply to Mr. Tobin's remark, said he adopted Mr. Wheeler's published description as the basis of hi observations.

SECTION IN MEDICINE.

Meeting of May 16, 1890.

Dr. John William Moore in the Chair.

Acute Confusional Insanity.—Dr. Conolly Norman reac a paper on acute confusional insanity. He pointed out that thi form of psychoneurosis occupied an intermediate place betwee acute mania and the acute dementia of the older classificator schemes, and contained a very large number of cases. It wa characterized by engagement of consciousness in the form o dream-like confusion, together with hallucinatory disturbance. t was interesting to others than specialists, because it was the form of mental disturbance most often associated with diseases not primarily affecting the nervous system. Puerperal, post-febrile, rheumatic, phthisical, and other varieties of insanity depending on general diseases commonly took this form. Dr. Norman dwelt upon its frequency in alcoholic cases, and pointed out that the peculiar mental disturbance described by Korsakow, Ross, and Viglesworth as accompanying alcoholic neuritis was a variety of acute confusional insanity. He detailed a number of illustrative cases, including several alcoholic ones, and defended the differentiation of this affection on ætiological and prognostic grounds, as well as because the distinction tended to more accurate clinical description.

Dr. Moloney inquired whether, firstly, in the younger perons whose cases had been detailed, the state of the heart and idneys had been examined; and, secondly, in the older persons, articularly in the case of the woman who fancied a black man ame into her room at night, whether there had been any uterne trouble, or the climacteric time had been reached. He had imself observed a considerable number of cases in which, at he climacteric time of life, there was confusion as to dates and laces, and also, most commonly in cases of the melancholic ype, delusion of persecution by unseen agents. One woman's nsanity commenced with the hallucination that somebody was utside at the gate shouting that she was too fond of going into er father's bedroom (her father was suffering from bladder rouble) and that such conduct was indecent. At the outset she xhibited maniacal excitement, and for several months she was ather confused in identifying those about her, being doubtful hether her nurse of to-day was the nurse in charge of her the revious day, and doubtful also of his (Dr. Moloney's) name, hile identifying him sometimes by his boots and at other mes by his hat.

Dr. Norman, in reply, said there was no heart or kidney fection in the younger patients; at least, though anxiously arched for, none was discovered. The woman who came to ublin to consult her lawyer was aged fifty, and had ceased to enstruate at forty-seven; but there was no indication of utere trouble. He was inclined to think that to the type which e had described belonged the case mentioned by Dr. Moloney. ases of the kind seemed to vary in character between mania nd melancholia, giving rise to difficulty of classification; but the asylum such classification was not so important for puroses of treatment as to comply with the desire of the Psychogical Society, there being what was called in asylum slang a refractory ward," into which cases that would not go anyhere else were inevitably put.

Medicated Soaps.—Dr. Walter G. Smith made a commucation upon medicated soaps. He drew attention to the difences in preparation and properties of soda and potash aps, and pointed out the injurious effects upon the skin of an cess of alkali, which not only removed the greasy dirt but o robbed the skin of its natural fat. This was derived from o sources—(*a*) the glands, sebaceous and coil glands; (*b*) the idin of the epidermis. Over-fatty (super-fatted) soaps—*i. e.*, ntaining some unsaponified fat—represented a real advance n the preparation of good soaps for medicinal use. The comsition of "Grundseife" (basis-soap) was: Beef suet, 59·3 per nt.; olive-oil, 7·4 per cent.; soda lye, 38° Beaumé, 22·2 per nt.; potash lye, 11·1 per cent. This could be medicated by a riety of drugs—*e. g.*, resorcin, ichthyol, sulphur, mercurials, e. The detergent action of soap was explained, and the odes of using medicinal soaps were commented upon.

Dr. McVeagh said that to dermatologists medicated soaps d many recommendations for the treatment of parasitic diseases; and he expressed great faith in corrosive-sublimate soap for eczema in children, rubbing it in and then putting on a thin gauze.

Dr. S. M. Thompson inquired whether salicylic acid might be used in soap for eczema of the head in children without causing irritation.

Dr. William Stoker, having regard to the limitation of the medicated soaps chiefly to the soaps composed of the fatty acids in which the alkali had replaced the glycerin, inquired as to lithium soap; secondly, in view of the explanation of the action of soap on the hands in the ordinary method of use, whether it was equally true of the super-fatty soaps that there was free alkali in free dilution; and thirdly, whether it was competent in the glycerin soap to retain much of the glycerin as used in commerce, or was it only "glycerin" so called on the *lucus a non lucendo* principle. He had been informed by a Dublin manufacturer, on the surface of whose soap he noticed globules, that almost all the glycerin was retained in the soap.

The Chairman said he had seen an ointment containing ten grains of salicylate to the ounce used even on children without deleterious effect. As regarded the question whether glycerin was really present in so-called "glycerin soap," the sweet taste of that soap was conclusive evidence of its presence.

Dr. Smith, in reply, said, as regarded Dr. Thompson's inquiry, that the question was one for the practitioner's judgment. As to Dr. Stoker's questions, he had no knowledge of lithium soap. The transparent glycerin soap contained a large amount of glycerin. He had not had time to make an analysis of the vinola soap. There was no doubt that the use of medicated soaps represented a distinct advance in the methods of treatment.

Old Fallacies revived under New Names.—Dr. T. More Madden read a paper on the recent revival under new names of some old fallacies bearing on medicine.

A recurrence of epidemic empiricisms widely affecting the practice of physic had been often observed in the history of our art. These popular beliefs, however fallacious their foundation, generally died hard, and, after a period of oblivion, were not infrequently resuscitated. Thus at present we had at least "three Richmonds in the field," where medical science and its counterfeits were in close competition, and where the prize of ephemeral success was perhaps most frequently awarded to the latter. These rival popular therapeutic theories, methods, or "*fads*" included hypnotism, massage, and faith-healing, each of which might be considered as being in some measure illustrative of the revivalism just referred to, with the exception of the latter. Faith-healing rested on religious belief, and therefore, however erroneous or fanatical it might be, it could not be properly classified in the medical journal. Hypnotism and massage could claim no such exemption from full discussion and criticism, although in some respects it might perhaps be difficult to treat their pretensions seriously. First, with regard to *hypnotism.* Under that term had apparently been recently confounded and intermixed the resuscitated phenomena of two essentially distinct conditions—namely, that modification of animal magnetism with which the name of the late Mr. Braid, of Manchester, was formerly associated—*i. e.*, Braidism; and, secondly, with this, in some instances, were now conjoined the revival in a new guise of the older illusions of mesmerism. Of the possibility, in many cases, of producing by the former a state of concentration or anæsthesia in which surgical operations might be painlessly performed there could be no question. The expediency or prudence of availing ourselves of this power, especially in the cases in which it might most commonly be exercised—namely, in the case of patients of abnormal mental or nervous constitution, such as those of hysterical temperament, of whom the number, male as well as female, was larger than was generally supposed—was another question, and one which Dr. Madden thought should be unhesitatingly answered in the negative, for various reasons, physical and moral, which he assigned. With regard to the still more objectionable and more remarkable alleged powers by which, as had been again recently asserted, the skilled operator in this occult art might, at his will or by his mental suggestion, or induction of a subtile nerve force, somewhat akin in its supposed action to the magnetic influence, control the thoughts and acts of the hypnotized subject, and even thus modify the course or arrest the progress of disease—these, although, as just said, very commonly confounded with Braidism, were obviously traceable to the older illusions of animal magnetism or of mesmerism, of which they were substantially the resuscitation in a new guise. The real marvel connected with such assertions appeared to be the fact that at the present day some men of whose sincerity and sanity there could be no possible question should claim these powers, and that others similarly circumstanced should admit the possibility of their influencing any persons save those of abnormal nervous or mental constitution, more especially the oftentimes semi-insane victims of hysteria. *A priori*, it might well seem incredible that pretensions of this kind should be gravely advanced and accepted in the last decade of the nineteenth century, were it not that this age, so often skeptical of the truths of Divine Revelation, had afforded so many illustrations of its credulity in the illusions of pseudo-scientific enthusiasm; and that at the present time we had abundant contemporaneous evidence of a widespread credence in the alleged and incomprehensible powers of animal magnetism, as asserted, under the name of hypnotism.

To deny *in toto* the possibility of phenomena to the actuality of which so many witnesses had testified, merely because they were apparently at variance with common sense and wholly inexplicable in the present state of our knowledge, might perhaps be thought unphilosophical. Hence, whatever our own opinion might be on this subject, we must be content to leave its final decision for the eventual judgment founded on the better knowledge and experience of the profession. Whatever that verdict might be, it could not be very long delayed.

The painful exhibitions of so-called hypnotic influence described in recently-published reports of certain proceedings on the Continent, as well as the spectacles of either fanatical enthusiasm or else of charlatanism acting on acquiescent imbecility which he had himself more than once witnessed in the performances of professors of animal magnetism, could hardly be spoken of from any point of view save in terms that might perhaps be deemed offensive by those who were believers in these powers. Hence he would forbear any further reference to them. For, as the learned Fuller had long since observed: "I meddle not with these Bedlam phancies, all whose conceits are antiques, but leave them for the physician to purge with hellebore."

Dr. Madden then discussed the pretensions of massage to novelty, and entered at considerable length into the history of some persons whose methods of cure, as successfully employed in Ireland so far back as the days of the Commonwealth, and subsequently in the time of Charles II, were, he thought, largely anticipatory of the present practices of massage, as well as those of animal magnetism or hypnotism.

Whether such phenomena, ancient or modern, had any foundation in actuality it would be difficult as yet to pronounce. There were more things in heaven and earth than were dreamed of in our philosophy, and these might be of them. At any rate it might be interesting to bear in mind the success, in one respect at least, that rewarded the original professor of animal magnetism, whose career might possibly be some encouragement to the modern practitioners of hypnotism, and to remind them that upward of a century ago somewhat similar pretensions were made by Mesmer, whose thesis *On the Influence of the Planets on Human Bodies* was published in Vienna in 1776. Whether Mesmer appropriated the views previously held on this subject by the Viennese astronomer, Hehl, as the latter maintained, or not, now mattered little. The controversy between the learned professor of unsavory name and the reputed father of animal magnetism was a very animated one, and contained some curious matter. The result of the discussion was Mesmer's retirement from Vienna to Paris, where, two years later, in 1778, he reappeared on the stage as the then reigning lion of Parisian society as well as the most successful practitioner of his occult art—from both of which positions his fall was as signal and as rapid as his rise thereto had been. While the brief sunshine of his popularity lasted, however, Mesmer, who apparently had always a shrewd eye to the main chance, acted on the old adage so successfully that within a couple of years he realized by his practice in Paris a fortune of some 340,000 livres, and before the publication of the adverse report of the commission appointed to investigate this question managed to sell the secret of his method for a sum equivalent to fourteen thousand pounds. The modern professor of animal magnetism might well regret the palmy days of the Ville Cour.

Dr. A. N. Montgomery said, with reference to massage, that it was a pity Dr. Madden had not attended the previous meeting of the Section, at which an exhaustive paper on the subject was read by Dr. Kendal Franks, who traced its origin to many years prior to the Christian era, and advocated taking the treatment out of the hands of quacks and charlatans and putting it on a scientific basis, which he had explained. It was also to be regretted that Dr. Madden, in sending in the title of his paper, had not specified the *fallacies* which he intended to discuss.

Dr. Norman said that about massage he knew little: but since it had been prescribed by some enthusiasts in late years as a universal remedy in mental diseases, he fully shared in the terms of contempt and scorn with which Dr. Clinton, of Edinburgh, had referred to the curative powers alleged for it in mental disease. That mesmerism had taken the course it did was unfortunately due to the attitude adopted toward it by the medical profession in the time of Mesmer—denying the truth of certain things which were undoubted facts. But since the days of Heidenheim, and since Charcot's investigations, the faculty looked upon what was now generally called hypnotism in a more serious way. That there was some truth in the phenomenon everybody knew, but that hypnotism had the therapeutic effects ascribed to it, he agreed with Dr. Madden was incredible and absurd. He had learned that Charcot was now withdrawing from the practice of hypnotism, conceding that its certai evil effects counterbalanced any good that might be expected. Voisin, the author of a famous treatise on several diseases common to the insane—amenorrhœa, epilepsy, masturbation, lying, thieving, and moral insanity—was under the delusion that thes diseases could be cured by its means. It was almost enough t overturn one's mental balance to broach the idea that moral depravity could be cured through the agency of hypnotism. A a warning of the danger of hypnotism, Heidenheim's first an favorite subject was his own brother—a fine, active, health young man, who, under the constant strain of hypnotic exper ments, fell into a state of neuro-anæmia, became incapable o following his profession, and had to take a holiday of two year duration before he recovered his mental tone. He had read recent case in a German medical journal recording the detai of a woman who fell into the hands of a hypnotic quack an was hypnotized into a state of acute confusional insanity.

Reports on the Progress of Medicine.

ANATOMY.

By MATTHIAS L. FOSTER, M. D.

Congenital Sacculations and Cystic Dilatations of Veins.—These conditions have from ancient times been generally recognized in connection with varicose disease, but have received very little attention as distinct affections. The reason for this is twofold: First, because they frequently give rise to no trouble of any kind; and second, because when symptoms demanding treatment arise their existence is masked by the general varicosity which coexists in many cases.

Mr. Bennett (*Lancet*, April 12, 1890) describes three classes of these venous sacs and dilatations. The first and rarest form consists of a distinct sac springing from one side of a vein, with which it communicates through a small opening. This condition may or may not be associated with a varicose condition of the surrounding veins, but some evidence of venous abnormity in the form of nævus or varix is to be found in near or distant parts. Clinically it presents the form of a softish, compressible tumor, the connection of which with a vein may more or less easily be demonstrated. When this occurs in the neck the patient has the power, by means of holding the breath, to cause the tumor to become large and tense.

The second class consists of a dilatation at the point of entry of a tributary vein into the parent vessel. In part of these cases the proximal end of the tributary and the neighboring part of the recipient are about equally involved, and in part the tributary is the more affected, and a globular swelling is produced which seems to project from the main vessel. This class seems to be almost invariably associated with varicosity of the veins in the immediate neighborhood. The tendency to dilatation seems to be congenital; its development seems to depend on the same conditions which promote the development of ordinary varicosity.

The third and most common class is local dilatation involving the whole circumference of the vein. This may occur in any valved vein and invariably involves the portion of the vein in the immediate neighborhood of a valve which generally forms the distal boundary of the tumor. At first it is pyriform, afterward spherical, but rarely attains any great size. This form is often found associated with extensive varix, but it does not occur as frequently in the midst of masses of varicose veins as is sometimes supposed.

The only conditions which render active treatment necessary are rapid distention causing pain and possible hæmorrhage through rupture of the cyst wall, rapid coagulation in the sac from injury, inflammation or other cause, and suppurative inflammation in dilatations packed with clot. In these cases the clot-packed sac should be removed together with the portion of the vein from which it springs. When the sac springs from a deep, important vein, like the femoral, operative treatment is contra-indicated unless the sac be pedunculated sufficiently to admit of ligation. When removal is impracticable in a superficial vein, division of the distal portion of the vein between two ligatures is recommended. The pain from distention may be controlled by pressure. If suppuration appear, it should be treated as an abscess, opened antiseptically and cleaned out.

Gastroschisis.—Dr. Brown (*Brit. Med. Jour.*, Jan. 4, 1890) gives he following description of a monster which breathed only once or wice:

"The liver and part of the small intestine were projecting through he umbilical opening, which also admitted the insertion of two fingers. The abdominal wall below the umbilicus was covered with serous membrane only, the skin and muscle being absent from the anterior aspect of the abdomen. In both groins was a diminutive penis—without the urethra—and the scrotum. There was no anal opening. The legs were both abducted from arrested development and displacement of the pelvic bones. There was also talipes varus."

Development of the Ciliary or Motor Oculi Ganglion.—Dr. Ewart presents some investigations of the cranial nerves of sharks and skates *Proceedings of the Royal Society*, March 6, 1890), from which it appears that the ciliary ganglion stands in the same relation to one of the cranial nerves, the ophthalmicus profundus, as the sympathetic ganglia of the trunk stand to the spinal nerves, and that this ganglion may henceforth be considered a sympathetic ganglion.

The most conflicting views have for some time been held as to the origin, relations, and homology of this ganglion, which is known as the ciliary, motor oculi, ophthalmic, and lenticular. Some observers have confused it with the ganglion of the ophthalmicus profundus, and considered it homologous with the Casserian and other cranial ganglia, but within the past few years the ciliary ganglion and the ganglion of the ophthalmicus profundus have been shown to be distinct, and the old view of Arnold, that the ciliary was a sympathetic ganglion, has been revived. The researches of Dr. Ewart go to strengthen this view, and he thinks that perhaps further investigations may show that the ganglia in connection with the branches of the trigeminus nerve may also be considered as belonging to the sympathetic system. He professes to have found the vestiges of the ophthalmicus profundus ganglion in a five months' human embryo, lying under cover of the inner portion of the Casserian ganglion, and has satisfied himself that the ophthalmicus profundus of the elasmobranch is represented in man by the nasal branch of the ophthalmic division of the fifth nerve.

Supernumerary Tonsils.—Donelan (*Brit. Med. Jour.*, May 17, 1890) reports a case in which there were two pairs of symmetrically placed tonsils. One pair was in the normal position, the other was situated low down in the pharynx. All four tonsils were hypertrophied and were removed. A microscopic examination showed that they all presented the usual characteristics seen in hypertrophied tonsils.

This case is a very unusual one in that the supernumerary tonsils were bilateral and symmetrically placed below the normal glands, from which they were separated by the posterior palatine fold by an interval of half an inch.

Development of the Hymen.—Schaeffer (*Arch. für Gyn.; Am. Jour. of the Med. Sci.*, June 1890) has made a careful study of this subject, based upon the examination of the genitalia in nearly two hundred fœtuses. He found that in every instance the hymen, as early as the fifth month, was composed of two lamellæ, the inner being derived from the vagina, the outer from the folding in of the vulva; in many cases the two layers coalesced, but they sometimes remained distinct until birth, though seldom later. The fœtal hymen had on its inner (upper) surface transverse folds similar to those in the vagina; between the folds small pockets were often formed, from which cysts of the hymen might form. Certain anomalies in the hymen—the hymen crenelatus, dentatus, carinatus, falciformis, etc.—may be accounted for by irregularities in the distribution of these folds. On the outer surface of the fœtal hymen numerous folds were found, which extended from the fossa navicularis, nymphæ, clitoris, and meatus. The writer gives this summary of the arguments in favor of the bilamellar origin of the hymen: 1. In over one fourth of the specimens the lamellæ were clearly demonstrated. 2. The outer lamella was proved to be developed from the folds which radiated from the region of the vestibule. 3. Various stages in the union of the two lamellæ were observed. 4. The outer lamella had the same color and epithelial covering as the vestibule, the inner that of the vaginal mucosa.

The Nerves of the Back of the Hand.—Zander (*Fortschritte der Medicin*, No. 9, 1890) gives these results of his investigations:

The dorsal finger anastomosis supplies not only the nail of the thumb, but also of the little finger, occasionally of the fore and ring fingers, and rarely of the middle finger. There is an interchange of filaments between the anastomoses on the dorsal and volar surfaces of the fingers, and wherever the dorsal nerves fail to supply the nail the palmar nerves supply the deficiency.

Upon the back of the hand proper the areas of distribution of the radial and ulnar are not sharply divided along the middle line, but the branches of each nerve anastomose with those of the other. Frequently the skin of the entire dorsal surface of the hand is supplied by both nerves, and it is quite common that the middle portion is supplied with sensitive filaments from both sources. On the ground of this observation it can be affirmed, in cases where section of one of these nerves has produced no marked loss of sensibility, that a very extensive interchange of the nerve fibers exists; the less extensive this is, the more clearly will the loss of sensibility appear.

But the integument of the dorsum of the hand receives its nerves of sensation not only from the superficial branch of the radial and the dorsal branch of the ulnar, but also from other sources. The musculo-cutaneous unites with the radial and innervates the integument of the thumb and the radial part of the back of the hand. The posterior inferior cutaneous nerve the writer has found in several cases to supply the entire middle part of the back of the hand. Turner once saw the external interosseous branch of the radial continue to the fingers, and innervate the adjacent sides of the fore and middle fingers. A more important source of innervation is found in the anastomosis between the dorsal branch of the ulnar and the median cutaneous. Twigs from the palmar nerves also rise between the fingers and spread over the neighboring surfaces.

On account of these facts Zander maintains that in any given case it is very difficult, if not impossible, to diagnosticate the section of the involved nerve trunk by means of the degree and extent of loss of sensation on the dorsal surface of the hand.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for August 15th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Aug. 9.	1,636,598	815	..	..	..	..	..	..	8	4	12	10	13
Chicago, Ill.	Aug. 9.	1,200,000	597	..	..	..	..	..	..	32	2	14	2	8
Philadelphia, Pa.	Aug. 2.	1,064,277	414	..	..	..	..	..	..	13	1	7	..	11
Brooklyn, N. Y.	Aug. 2.	871,852	475	..	..	..	..	..	..	7	4	18	1	11
Baltimore, Md.	Aug. 9.	500,343	208	..	..	..	..	..	..	11	..	5	..	1
St. Louis, Mo.	Aug. 2.	450,000	163	..	..	..	..	..	..	4	2	6	..	....
St. Louis, Mo.	Aug. 9.	450,000	192	..	..	..	..	..	..	5	2	2	..	....
Boston, Mass.	Aug. 9.	437,245	278	..	..	..	..	..	..	3	1	3	2	....
Cincinnati, Ohio.	Aug. 8.	325,000	111	..	..	..	..	..	..	12	..	2	..	1
Washington, D. C.	Aug. 9.	250,000	102	..	..	..	..	..	..	6	..	2	..	...
Milwaukee, Wis.	Aug. 9.	240,000	81	..	..	..	..	..	..	..	..	4	4	1
Pittsburgh, Pa.	Aug. 9.	240,000	128	..	..	..	..	..	..	11	..	4	2	....
Detroit, Mich.	Aug. 2.	230,000	108	..	..	..	..	..	..	1	..	8	..	....
Minneapolis, Minn.	Aug. 9.	200,000	68	..	..	..	..	..	..	1	..	6	..	....
Louisville, Ky.	Aug. 9.	190,000	63	..	..	..	..	..	..	9	1	2	..	....
Kansas City, Mo.	Aug. 2.	150,000	40	..	..	..	..	..	..	..	1	1	..	2
Rochester, N. Y.	Aug. 9.	130,000	66	..	..	..	..	..	..	..	..	..	..	....
Providence, R. I.	Aug. 9.	130,000	80	..	..	..	..	..	..	..	..	2	..	....
Indianapolis, Ind.	Aug. 8.	129,346	39	..	..	..	..	..	..	4	1	..	..	....
Richmond, Va.	Aug. 9.	100,000	43	..	..	..	..	..	..	2	..	..	..	1
Toledo, Ohio	Aug. 8.	81,650	34	..	..	..	..	..	..	1	..	..	..	1
Nashville, Tenn	Aug. 9.	80,000	34	..	..	..	..	..	..	3	..	..	..	....
Fall River, Mass.	Aug. 9.	69,000	46	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C.	Aug. 9.	60,145	29	..	..	..	..	..	..	2	..	..	..	....
Manchester, N. H.	Aug. 9.	44,000	......	..	..	..	..	..	..	..	..	..	..	..
Portland, Me.	Aug. 9.	42,000	16	..	..	..	..	..	..	..	..	..	..	1
Galveston, Texas	July 25.	40,000	14	..	..	..	..	..	..	1	..	..	..	....
Galveston, Texas	Aug. 1.	40,000	6	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Aug. 8.	32,000	13	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Aug. 2.	26,000	10	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Aug. 9.	26,000	13	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Aug. 9.	22,011	9	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Aug. 7.	19,566	14	..	..	..	..	..	..	..	..	..	..	1
Rock Island, Ill.	Aug. 3.	16,000	8	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Aug. 2.	15,000	5	..	..	..	..	..	..	1	..	..	..	....

The Treatment of Cystitis in Women.—Dr. T. M. Madden presented the following note at the recent International Medical Congress:

Of all the diseases which come before us in gynæcological practice there is none more frequently met with, more distressing in its effects, or more intractable to the means generally relied on for its relief than cystitis in women. I therefore desire to bring under the notice of the International Medical Congress a method of treatment which I have found, by clinical experience, to be generally successful in the rapid curative treatment of this condition. The measures most commonly employed in such cases are merely palliative, and may relieve, but *per se* can never cure, well-established cystitis in women. Nor am I aware of any method by which that can be accomplished save by giving the bladder absolute physicological rest. For this purpose Dr. Emmet's operation—*i. e.*, the establishment of an artificial vesico-vaginal fistula—may be successfully employed in some instances, but the practical objections to it are so great and obvious that for several years past I have abandoned this procedure in favor of another which I have found more generally effectual and quite free from the disadvantages of the operation referred to. The plan which I have now employed in a very large number of cases of cystitis in the gynæcological wards of the Mater Misericordiæ Hospital, Dublin, consists firstly in the full dilatation of the uretheral canal with the instrument exhibited, so as to paralyze the contractility of the sphincter vesicæ, and thus produce a temporary incontinence of urine; and, secondly, in the direct application through the same instrument of glycerin of carbolic acid to the diseased endovesical mucous membrane. I may add that any pain thus caused may be prevented by the previous topical application of a solution of cocaine, and that the procedure recommended seldom requires to be repeated more than once or twice at intervals of a week or ten days; and, combined with the internal use of boric acid, rarely fails to effect a rapid cure in any ordinary case of cystitis.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, August 30, 1890.

Lectures and Addresses.

CLINICAL LECTURES
ON SOME COMMONLY OBSERVED FORMS OF PULMONARY DISEASE.

DELIVERED AT
THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

By JAMES K. CROOK, M. D.,
INSTRUCTOR IN CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS, ETC.

Lecture I.

Simple Acute and Chronic Bronchitis of the Larger Tubes.—This morning, gentlemen, we have a number of ases representing the most common form of disease of the espiratory organs, viz., inflammation involving the larger ronchial tubes. Fully two thirds of all the cases observed t our chest clinics are of this nature, and you will find it very frequent affection in almost every part of the temerate zone the world over. We will examine these cases *eriatim*, and endeavor to learn what features of interest hey present. No. 1 is that of a young man, aged twenty-our, by occupation a truck-driver. He informs us that he eceived a severe wetting, while engaged in his work, three ays ago. On the following morning he experienced some hilly sensations, with a sense of malaise and lassitude, and uring the day was seized with a harsh, painful, dry cough. Ie also felt a sensation of oppression and obtuse pain and awness in the front of his chest, more particularly behind ie breast bone. All these symptoms he has this morning, ut now a small quantity of glairy mucus is raised occaonally, and he also feels sensations of soreness and pain long the false ribs. These are undoubtedly due to the vere muscular contractions caused by the coughing forts. We find his temperature to be 99·5° F., and his ulse rate 94 to the minute. A careful physical examiation reveals no physical signs whatever save a slight bilance of the inspiratory and expiratory notes. We are ius led to a plain and unequivocal diagnosis of simple ute bronchitis in the first or dry stage. To use a lay pression, our patient has caught a "bad cold." We base is diagnosis on the history of the case, and on the abnce of all signs or symptoms of other pulmonary troubles. here is no pain in the side, no high temperature, no llness on percussion, and no bronchial breathing. No rtion of the lung is withdrawn from the exercise of its nction. The signs are negative, and that is what we pect to find in almost every case of simple acute bronitis in the first stage, unless the attack is exceptionally vere, when we may have harsh breathing or sonorous and bilant râles. The pathological basis of this patient's ouble consists at this time simply in a certain amount of ddening and tumefaction of the mucous membrane of e primary bronchi, and probably of the nasal passages d trachea. The membrane is very dry and irritable. iere is probably also more or less hyperæmia and perps inflammation of the bronchial glands. The prognosis good. Our patient is young and strong, and, with proper care, ought to be well in a few days. If he were a weak and puny subject, or else a little child, or an old person above sixty, we would be more guarded in the prognosis. In such cases the disease is liable to dangerous sequelæ, as we shall see in referring to chronic bronchitis. The indications for treatment here are: 1, to observe care against further exposure, as in sitting in a draft, going suddenly from a warm to a cold atmosphere, wearing insufficient clothing, etc.; 2, to relieve the irritable cough and the soreness and oppression of which he complains. The disease is not so far advanced but that we may still hope to abort it. For this purpose I am in favor of the old-fashioned treatment of a strong mustard foot-bath at bedtime. The feet and legs should be bathed up to the knees, and should remain in the hot water at least ten minutes. They must then be wiped dry with a coarse towel, and the patient must go to bed at once. He should then take a powder consisting of one grain each of ipecac and opium and ten grains of antipyrine. This formula is similar to the time-honored Dover's powder, except that the sulphate of potassium is replaced by antipyrine. I have never been able to see the value of the sulphate of potassium in the Dover's powder, while I am well convinced of the good effects of the antipyrine. This dose will cause profuse diaphoresis, but is quite sure to give the patient a good night's rest, free from coughing. A vigorous friction of the chest with the hartshorn or soap liniment will aid its action. To-morrow morning on rising he should take a good saline purgative in the shape of a glass of Villacabras or Rubinat mineral water, or a couple of heaping teaspoonfuls of Sprudel salt. By this treatment we may reasonably expect a modification of his symptoms, possibly a complete cessation. It will at least greatly ameliorate the severity of the trouble. However, there is apt to be more or less bronchial irritation and cough for several days, which may be severe enough to require treatment. Our object will then be to promote the secretion of the bronchial membrane so as to allay the dryness and irritation which produce the cough. Our subsequent measures need not be specially active, as the tendency of the trouble is toward recovery Probably ninety-five per cent. of cases in such subjects as this young man would end in recovery without treatment. To hasten this end, and to promote his comfort, we should prescribe a mild, stimulating expectorant. There are a large number of these remedies, but I know of none more reliable than the chloride of ammonium. It has been justly said, however, that this compound, when mixed with a syrup, is not pleasing to the palate. To obviate this bad taste, and also to gain the benefit of its sedative action, I have been in the habit of adding the spirit of chloroform, a favorite formula being as follows:

℞ Ammon. chlorid.................... ʒ ij;
Spt. chloroform., }
Tinct. opii camph., } ....āā f ʒ iij;
Syr. ipecac., }
Syr. tolut. vel syr. prun. virginian.... ad f ℥ iij.
M. Sig.: Dose, a teaspoonful as required.

This is not a bad-tasting mixture, and I have found few people object to it. A little chloride of apomorphine (one fifteenth to one sixth of a grain two or three times a day) is sometimes equally efficacious.

Patient No. 2 is a man aged thirty, who is in the second stage of bronchitis. His case might be called subacute, as his symptoms have been very mild from the beginning, about ten days ago. He is taking the formula I have mentioned. He says he needs only a little, and takes half a teaspoonful on retiring and on rising in the morning. The cough is loose and not at all irritating. The expectoration has been quite copious for several days, but is now becoming less. It is rather thick, and composed mostly of mucus, with a little pus. During the first two or three days he observed an occasional streak of blood, but this was not an alarming occurrence, as it is quite common in the first stage of bronchitis. The lining membrane of the bronchi is now moist, and probably only a little congested. We need not subject this patient to needless precautionary measures. He is doing well now, and with ordinary care will recover his health in a few days.

Patient No. 3, however, shows us that all cases do not progress so favorably. He is a tailor, forty years of age, and of a rather delicate physique. Early in January (about six months since) he fell a victim to the morbific atmospheric influences prevailing at that time, from the effects of which he has never recovered. After a week or two of sneezing, headache, pain in the back, rigors, etc., he settled down to a steady cough, which has not left him since. But he has developed other symptoms which somewhat augment the gravity of the case. His appetite has failed and he is losing flesh lately; he also finds himself somewhat short of breath on exertion. He complains of irregular thoracic pains and there is some tenderness on pressure at different parts of the chest. The cough is attended by a profuse greenish-yellow expectoration, which at times is very viscid and tenacious and hard to get up. Occasionally, but especially early in the morning on rising, he gets a coughing spell which lasts for ten or fifteen minutes, and even leads to violent retching and vomiting. These spells almost always set up a severe headache. The patient has taken several remedies from time to time, but they do not seem to have helped him much. On physical examination, we find all the methods to yield negative results, except percussion and auscultation. On percussion, in the lower and posterior parts of the lungs we find a certain degree of dullness on both sides. In these same regions, on auscultation, we find an abundance of large and small moist râles. These physical signs are undoubtedly due to a gravitation of the fluid secretions of the bronchial tubes to the dependent portions of the lungs. Higher up we still find râles, but they are more dry in character, being chiefly sibilant and sonorous. There is no circumscribed area of dullness or bronchial breathing. We need feel no hesitation in pronouncing this a case of chronic bronchitis. There are not sufficient elements in the history or physical signs to warrant any other conclusion. If we could see the lining of the bronchi, we should find less hyperæmia and tumefaction than in Case I. The membrane is probably of a bluish-red tint, or it may be slate-colored or grayish. There is, no doubt, an abundance of mucus, and probably pus, covering the membrane in places, which gives rise to the dyspnœa of which he complains. There are elements of gravity in this case which did not exist in the others. The patient is already considerably run down and he is progressively getting worse, and the disease may wear him out by its very obstinacy. Asthma and emphysema are always to be feared in such cases; but, worse still, the inflammation may descend into the smaller bronchi, giving rise to bronchiolitis or the so-called capillary bronchitis, and eventually to collapse of the pulmonary alveoli and lobular pneumonia. Such terminations of bronchitis are not uncommon in infants and old persons, but they also occur in debilitated persons of adult or middle life. There is even a possibility that the persistent bronchial inflammation may light up a latent tuberculosis. We can thus see that we have a case of great importance on our hands. Should he escape the foregoing evils, the disease may still continue for years and lead to bronchiectasis from loss of elasticity of the bronchial walls. We hope for a more favorable termination, however, and with proper management ought to be able to achieve it.

The indications for treatment here are clearly of the tonic and supportive order. We should regulate the patient's daily habits and regimen. He should wear warm flannels next his skin and avoid undue exposure. However, on all pleasant days, he should spend as much time as possible out of doors. Moderate stimulation is advisable to sustain his strength. If the patient can afford it, he may take a glass or two of claret with his meals, and the latter should be composed of as nourishing food as possible, especially meats and farinaceous articles of diet. We may find it necessary to administer a bitter tonic for his appetite, and for this purpose I know of nothing superior to the old-fashioned formula known as Smith's bitters, consisting of half a drachm each of the compound tinctures of gentian and cinchona, a dose to be taken fifteen or twenty minutes before meals in a little water. We can be reasonably sure that a little good exercise in the afternoon, with a dose of this preparation, will give him a good appetite for his dinner. It would not be a bad plan to administer also a drachm of Fellows's hypophosphites after each meal and at bedtime. A stimulating expectorant is clearly indicated. We wish to keep the products of bronchial exudation in as fluid a state as possible, so as to admit of their ready expulsion. The formula recommended in the case of acute bronchitis would be useful, but as there is considerable adynamia here, I would replace the chloride with the carbonate of ammonium. The addition of a few grains of the iodide of potassium would also increase its efficiency. But we can not undertake to enumerate the many remedies which have been found useful in bronchitis. The last edition of the *National Dispensatory* gives a list of more than one hundred and twenty. We can only say that, whatever remedy we choose for the cough symptoms, we should give as little of and at as long intervals as is consistent with the patient's comfort. The remedy will probably have to be administered for a long time, and such drugs are very apt to upset the appetite and digestion. I have very little faith in local measures in the treatment of chronic bronchitis, and rarely employ them. If our patient were in a position to afford the expense, we should advise him to get away from the seaboard for a while at this season (summer), and spend a few weeks in the Catskill or Adirondack Mountains.

Original Communications.

STUDIES IN THERAPEUTICS.
ASSAYED GALENICAL PREPARATIONS.

By JOHN AULDE, M. D.,
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Soon after the publication of my lectures upon The linical Applications of Drugs, which appeared in this Jour- al during the month of April last, I received a number of ommunications asking for further information upon various pics; but the question which I deemed of greatest impor- nce was in regard to the assayed fluid extracts mentioned. hose who read the lectures will remember that I insisted pon the need of giving attention to the character of the uid extracts employed, and I desire again to emphasize at need, and to point out that such preparations are in any instances superior to alkaloids in the treatment of isease.

To some, the foregoing statement may appear absurd, it a few words will suffice to show that the position is ell taken. It is well known among clinicians that many lenical preparations are not truly represented by the al- loids they contain; but we depend upon the presence of e alkaloid for the activity of the drug, as without it our erapeutical applications must be to a great extent tenta- c. No better illustration of this point can be given than the use of cinchona. There are times when the salts of e alkaloids will answer our purpose admirably, but at her times an infusion will do as well; then, again, it be- mes necessary, in order to obtain all the virtues of the rk, to employ the extract. Occasionally it has been found at the combination of one or more of the salts with the id extract will act more efficiently than either of these eparations alone. It must be borne in mind, however, at these conclusions were determined upon at a time when s care was given to the manufacture of fluid extracts than given at present, and there can be no doubt in the minds practical pharmacists that fluid extracts were often pre- red from inferior qualities of bark. It is not reasonable suppose that inexperienced young men are competent to ect and pass upon the quality of a product so simple as ruvian bark; and if there is difficulty here, what must the dilemma of those who have to decide upon the char- er of crude drugs where great experience is required, ing to their peculiar delicacy and liability to sophistica- n? Plants like aconite, cannabis indica, digitalis, and semium require experienced operators to determine the e from the false; but in addition, they demand the skill of the chemist to ascertain the presence of the proper proportion of active constituents. *Chemical analysis* alone serves to demonstrate their value, just as an assay process determines the presence and percentage of precious metals, and enables the purchaser to set a proper value upon the ore which is offered for sale.

The advantages of assayed galenical preparations must be apparent to the most obtuse observer; if not from the foregoing remarks, his own experience has convinced him that certain preparations are better than others, owing to their certainty of physiological action. The committee now engaged in a revision of the United States Pharmacopœia will doubtless be guided to the conclusion that the advance of scientific medicine and the success of the practitioner alike depend upon the early adoption of processes for the determination of the active constituents of all galenical preparations, where those constituents occur in the form of an alkaloid, a glucoside, or a neutral substance. Until such rules become obligatory upon the pharmacist, the work of the physician must to a great extent be a matter of guesswork; otherwise, the results which he desires from the exhibition of certain drugs of this class, when they are as expected, will be mere accidents, and in general anything but mathematically exact.

The rapid advances in other departments of science are sufficient to warrant us in insisting that the noble science of medicine shall not lag behind. The progressive spirit of the nineteenth century invites the medical man to take a step in advance, just as it has brought the surgeon from the darkness of ignorance and superstition into the light of truth and opened a new era in this department of medical science. Let this be the beacon which shall guide us to an advanced position in the use of drugs. Possessing medicaments which are exact and reliable in alkaloidal strength, the physician will attain greater skill in their administration, and the temptation to make combinations will gradually disappear. Too often combinations mean ignorance on the part of the practitioner, and unfortunately they are used at the expense of the patients' strength.

No physician can fail to appreciate the benefits which must accrue to his patients through the influence of reliable medicines. When called to see a patient in a distant country town, the first inquiry of the physician should be in regard to the reliability of the druggist; and when prescribing for a patient in a dilapidated portion of a large city, he should be particular to instruct his patient as to the druggist he ought to patronize. Happily, his selfish disposition and the welfare of his patient run in parallel lines. So long as the patient remains in bed, the doctor knows that his professional ability is not very highly rated; and besides, when the patient again goes on the street, he becomes at once a moving and talking monument of the professional skill of his physician; the *éclat* which follows a rapid recovery of an exceptionally interesting or exceptionally prominent patient is more to the physician than great riches. For these reasons, if not for those higher and holier motives which prompt men to face death for their fellow-men in times of sickness, the doctor is prompted to seek remedies that he can depend upon in the hour of need.

The objections urged against the plan suggested are not so formidable as its opponents would have us believe, nor are they insuperable. They are such as serve to break the force of the arguments against the method proposed, because they show beyond question the fallacy of the premises, and prove the uselessness of a system which is inefficient because of its irregularities. The opposition comes from sources least suspected, and, owing to the under-current of antagonism, the necessities of the physician must be more strenuously insisted upon than the overwhelming evidence in its favor would appear to require.

For example, it is alleged that no pharmacist of ordinary ability is capable of undertaking these delicate operations, and it is said also that, had he the capacity, it would require too much time and an unnecessary outlay for apparatus; but these are flimsy excuses where life is at stake. On the contrary, it is stated on the authority of Professor Mew, of Washington, D. C., analytical chemist to the purveying department, U. S. Army, that any well-qualified druggist can, in the course of a few weeks, be thoroughly educated to do this work, and that the expenses of the outfit are comparatively trifling when compared with the increased advantages which would attend the introduction of assayed products. Again, it has been suggested that it would be an easy matter to prepare a finished product which would meet all the requirements in respect to alkaloidal strength by any known chemical process, through the addition of foreign substances which possess no medicinal value whatever; but, as no reputable pharmacist would be guilty of such sophistication, only a short time would elapse before the source of the spurious preparations would be discovered. The notion that such counterfeits could be placed in the hands of an innocent druggist, who should be held responsible unless he could show the preparation in the original package, is too absurd to be entertained for a moment.

Finally, it is strongly urged that if we are coming to alkaloidal therapy, it would be far better to discard the other products entirely; but there are several valid reasons why this plan can not be adopted at the present time. First, the physiological actions of alkaloids in many instances are not fully understood; consequently, further investigation is required. Secondly, quite a number of alkaloids do not, as previously stated, represent the physiological action of the crude drug, owing to the presence of principles which neutralize one another; while some alkaloids, like cannabine, are too expensive even for physiological investigation. Possibly they may in the future be produced synthetically at a cost low enough to permit their general employment. Some alkaloids, such as those belonging to the *Solanaceæ*, can not be used continuously for any length of time, owing to their tendency to accumulate in the liver and obstruct its functions. While admitting that many of the active principles of vegetable origin are used with satisfaction, and that there is no doubt of their safety, I must insist that such usage can have no direct bearing upon the question, where these principles do not represent the physiological actions of the crude drug, or where they can not be produced in such quantity, and at an outlay which will enable their use to become general.

Clinical experience is, therefore, the final and crucial test which must guide us in determining whether or not we are to use galenical preparations which have been submitted to an assay process. Those opposed to the method must be regarded as opposed to progress; they are entitled to be classed with a large number of physicians, now passing from the stage, who knew but little of the possibilities of drugs from a scientific standpoint, who practiced wholly on an empirical basis, firing shot-gun prescriptions into their patients from day to day.

We are not in a position to estimate with any degree of accuracy what a great blessing physiological investigation has been to mankind, nor can we appreciate how human life has been prolonged through this apparently insignificant agency; but the time is approaching when the practice of physic will be conducted upon a surer footing, when the physician will be able to calculate with a reasonable degree of certainty the effect which any particular drug will produce; and he can give the nurse instructions which will enable her to discontinue one preparation and replace it by another at the proper time, just as we do now in controlling the temperature and pulse in typhoid, scarlatina and in acute forms of disease. The stepping stone toward accomplishing this achievement is to be found in the use of galenical preparations made to conform to a regulated standard of alkaloidal strength.

Almost daily-recurring incidents might be recorded which illustrate the truth of the propositions here advanced but a few will be quite sufficient. Some time ago, a professional friend complained to me that, even when following my directions to the letter, he could get no satisfactory results from the use of cannabis indica for the relief of supraorbital neuralgia and certain forms of dysmenorrhœa. When asked whose manufacture of the drug he had employed, he could not tell. I advised him to use the so-called “normal liquid,” and since that time the treatment of these affections, where this drug was indicated, has been invariably successful. Quite recently I read some suggestions regarding the use of gelsemium in the form of a fluid extract, the dose being given at from ten to twenty drops, and came to the conclusion that the preparation used in this manner must be practically inert, and that a teaspoonful might be taken with safety. With the use of “normal liquid” gelsemium the cases are rare indeed where ptosis can not be produced in two hours by the judicious employment of ten drops. Within the past few weeks I had, with an exceptionally practical and reliable druggist, a conversation which turned upon the subject of ergot. Taking down the shelf-bottle, I pointed to a precipitate in the form of a poultice, when he informed me that it was impossible to keep this preparation any length of time without precipitation. Personal observation enables me to contradict this statement, as I have kept for more than a year a small bottle of the normal liquid, and there are no indications of a precipitate.

About two months ago a physician wrote me that he had used rhus toxicodendron, in both large and small doses in nearly all the disorders for which I had recommended it, and had utterly failed to notice any result whatever, but like my friend with the cannabis indica, he did not know whether the preparation used was the fluid extract made from the dried leaves or the tincture made from the fresh leaves growing in the shade and gathered during the period of efflorescence. A sample which I immediately sent him relieved in every case, including a rheumatic trouble from which he had long suffered himself, and he was therefore prepared to champion the drug. This preparation, it should be remembered, is one which depends for its activity upon the presence of a volatile substance, toxicodendric acid, and the subject is introduced here as an illustration of the facts already pointed out—viz., that the preparation of drugs for the relief of disease can not receive too much care. It shows, too, that drugs, to be efficient, must be prepared according to certain recognized methods; hence it is extremely doubtful if in their preparation inexperienced clerks can be depended upon.

Both aconite and belladonna are drugs which are extensively used in general practice, but, as usually found in the shops, they are the most uncertain of all in the Pharmacopœia, with the possible exception of the tincture of opium. The first of these is a remedy of prime importance in the early stages of all inflammatory affections in which mucous surfaces are involved, and the failure to obtain promptly the physiological effects of the drug means an attack of pneumonia, amygdalitis, or other serious disorder. The physician prescribing this drug especially desires a reliable preparation, because, after the first twenty-four hours, when his patient is seen on the second day, the period for its administration may have passed, when efforts must be made to conduct the disease to a favorable termination rather than control it. With the exhibition of reliable preparations, attacks of this character in the acute stage may frequently be aborted.

What is true of aconite is notably applicable to preparations of ergot. With his hand upon the uncontracted uterus, when every throb of the heart means a gush of blood which may possibly be the last, when the vision fails, and the recently delivered woman raises a feeble but piercing cry that she is dying, then it is that the physician thinks of the quality of his ergot. It is his sheet-anchor. The movements of the nurse in procuring it may be slow, the patient may hesitate, but the physician knows that, if once the drug is taken, the danger is averted. There are other instances in which the necessity for reliable medication is quite as great, and, when those who oppose the method assert that such work as I have suggested is unnecessary because it takes too much time, that it will require the pharmacist to increase his stock of intelligence and increase by a few dollars his outlay for apparatus, I most respectfully submit that it is a sad commentary upon the boasts we are accustomed to make regarding our modern civilization.

In conclusion, therefore, I desire to offer my plea for the employment of assayed galenical preparations, and, as the normal liquids have served me well, I commend them to the attention of my brethren in the field, believing that they will be instrumental in guiding them to a more scientific use of drugs. By their use for several years past I have been able to conduct the administration of medicines with greater precision, and at the same time have learned to employ drugs of this class with due regard to their physiological actions. As a consequence it seems to me that my medical horizon has gradually widened, and, as my knowledge of diseased conditions increases, my respect for drugs improves. As a result of clinical observation, I recommend the use of small doses, because the small doses, given at short intervals, at least in acute cases, more quickly bring the disease under the control of the physician, while, with medicines which are unreliable, the results are always uncertain. If the attendant is interested in prolonging the patient's illness, haphazard medicaments are a desideratum; but if he desires the recovery of the patient, and possesses selfish motives which prompt him to add laurels to his professional reputation, the remedies which have been submitted to a chemical or physiological test to determine their activity are the only ones he will be willing to accept.

It would be interesting to say a word in regard to the precautions to be observed in the preparation of assayed galenical products, but it is believed that enough has been said to establish a good case, as the evidence is substantial and complete.

1910 Arch Street.

THE LARYNGOLOGY OF TROUSSEAU AND HORACE GREEN.

AN HISTORICAL REVIEW.[*]

By FRANK DONALDSON, M. D.,

BALTIMORE.

Nearly all the prominent and valuable discoveries in science and the arts have reached completion gradually. Thoughtful minds at different epochs have been occupied with attempts to overcome the same difficulties and to solve identical problems. Not aware how near they have been sometimes to success in their attempts, they have often abandoned their work when perseverance would have rewarded them with brilliant results.

We are all familiar with the history of the discovery of the little instrument which has furnished us with a name as well as a science and a practical, invaluable art. Starting from the middle of the last century (1743) with the ingenious device of M. Levret, the laryngoscope had nearly been reached several times by Bozzini, by Senn, and others, but never so nearly as by Babington in 1829. It was left for Garcia, in 1854, to demonstrate in his own person autolaryngoscopy, and to present to the profession his simple mirror and reflector enabling all to illuminate and inspect the hitherto darkened chambers of the larynx and nares.

The imperfect and unsatisfactory art of laryngology yielded to the exact science of laryngoscopy.

The feat was accomplished. When once the discovery had been made, there was no difficulty in the future.

The history of the invention and of the futile preceding efforts it is unnecessary to mention.

The object of this brief paper is to inquire into that period of the history of laryngology immediately anterior to Garcia's successful inspection of the larynx, and more particularly of the part played by Trousseau, of Paris, and by Horace Green, of New York. The French give great credit to the former, and the American has had his appreciative friends and also his detractors. I thought it might not be uninteresting to endeavor to take an impartial view of both, the writer having had as a student the privilege of following Trousseau in 1850–'51, and of closely watching his practice. All acknowledge that he was a very able clinician. He was particularly interested in the study of diseases of the mouth, oro-pharynx, and larynx—all of which are generally included in the designation of laryngology. His wards contributed abundant material for lectures upon common membranous sore throat, gangrenous and inflammatory pharyngitis, diphtheria, and tubercular laryngitis.

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[*] Read before the American Laryngological Association at its twelfth annual congress.

Trousseau popularized the operation of tracheotomy for membranous croup, which he regarded in many cases as diphtheritic. He was very successful. He insisted that the operation should be performed early in the disease, and he used strong solutions of nitrate of silver freely in the orifice after opening the trachea.

His limited knowledge of the pathology of the larynx was that of his day. He taught his classes that tuberculosis and syphilis were the almost exclusive causes of aphonia and dysphonia. For these his treatment was by the application of nitrate of silver in the form of the solid stick to the pharynx, or by solution injected through perforated silver curved tubes passed behind the epiglottis. The shower from these was thrown over the epiglottis and the supraglottis. If it touched any diseased points, it also irritated the healthy surfaces. The oro-pharynx was really the only part that he could illuminate sufficiently to be able to apply the medicaments accurately. The diseases of the upper pharynx and posterior nares he overlooked, for the rhinoscope had not then been applied. These were the points of his practice in 1850 in connection with laryngology. A set of silver tubes I brought home with me, and used for some years as I had seen him apply them, but I soon ceased to use them, as they were unsatisfactory.

Let us for a moment see what Trousseau did after the laryngoscope had been used by others.

In the last edition of Trousseau's *Clinical Medicine*, published in 1867, edited by M. Michel Peter, his pupil, and translated by Sir John Rose Cormack and Bazire, it is maintained that Trousseau and Belloc, long before the publication of their work on laryngeal phthisis (in 1837), felt that the examination of the larynx by a suitable speculum was a likely means of attaining accurate diagnosis; further, that at the date of their publication they were occupied with the construction of such a speculum laryngis. At that time, likewise, M. Sellique, an ingenious mechanic, who was also a sufferer from laryngeal phthisis, made for his physician an apparatus consisting of two tubes—one for throwing light on the glottis, and the other for affording a view of the image of the glottis, as reflected in a mirror placed at the guttural extremity of the instrument. There were serious defects in this instrument; we are told that the difficulties in applying it were so great that Trousseau ceased to try to use it. It is a curious fact that neither Trousseau nor others took any notice of an instrument proposed and presented in 1825 to the Institute by M. Caguiard de Latour, especially as Fournié affirms that it was the first discovery of the laryngoscope. It consisted of a small mirror, which was to be introduced into the fauces and, by the aid of another as a reflector, to catch the solar rays and reflect them and illuminate the epiglottis and the glottis. Its practical application allowed only the inspection of the epiglottis. M. Latour lacked perseverance, or he might have been the successful discoverer. Benniti, of Paris, in 1832, had asserted his ability to see the vocal cords with Sellique's instrument—his double-tubed speculum, of which one tube served to carry the light to the glottis, and the other to bring back the image to the eye. Trousseau discredited this statement, and undertook, in his work on laryngeal phthisis, to prove that the epiglottis formed an insuperable impediment to a view of the interior of the larynx. Trousseau's rejection of Sellique's and Benniti's instruments, by the weight of his name and position, was calculated to defer the discovery of the laryngoscope.

In his clinic on œdema of the larynx, as reported in the last edition, Trousseau, or his editor, says: "The laryngoscope has been carefully studied in England and Germany; when it has attained a greater degree of perfection it will, no doubt, render service not only in the diagnosis, but also in the treatment, of laryngeal affections."

If he were living, how cordially should we welcome him to witness the perfection its application has reached! He would be as dazed as Rip Van Winkle was when he awoke from his prolonged sleep.

Dr. Horace Green, as a very young man, was impressed, in several cases of follicular disease of the throat in which he had become interested, with the uncertainty attending their treatment. He went abroad to visit the hospitals of Europe to see if there had been any discoveries in connection with the pathology and treatment of the diseases of the larynx and the adjacent organs. In a casual conversation he had with Dr. James Johnson, the editor of the *British and Foreign Medical Review*, in alluding to the difficulties and uncertainty which attended the treatment of laryngeal disease, Dr. Johnson intimated that all modes of treatment would fail us until appropriate therapeutic agents could be applied directly to the lining membrane. This remark, in connection with Green's past experience of the nature of the disease, and especially of its local character, made an abiding impression on his mind, and suggested the idea of the possibility of medicating the cavity of the larynx by catheterization. This was in 1838.

He made for himself a probang, with which he commenced introducing a solution of nitrate of silver into the pharynx and into the larynx. He found at first some difficulty, but he gradually made himself very expert in catheterizing the larynx and the bronchi. He met with such success that he soon made a reputation and enjoyed an increasingly large practice.

His first work was a treatise on *Bronchitis*, published in 1846. In this he advocated strongly, amidst much opposition, topical applications of nitrate of silver to the interior of the larynx and catheterization. He gave numerous cases where he had succeeded. These were in addition to the cases previously, in 1841, reported to the Medical and Surgical Society of New York. A committee of this society, appointed in 1847, condemned his practice. The members repeatedly and publicly denied the possibility of cauterizing the interior of the larynx. Why is it that there are always persons who are persistently incredulous and cavil at new things?

A resolution was offered asking Dr. Green to withdraw from the society. His offense was that he had repeatedly performed an operation which even a professor of anatomy declared impossible, although accidentally in many cases particles of food, besides bits of coin and other foreign bodies, had passed unhindered through the glottis. Others accused Dr. Green of imitating Trousseau and Belloc. Dr. Green warmly defended himself against the charge of having imitated Trousseau and Belloc. He stated that he had commenced his method of cauterizing two years before he knew of the writings of Trousseau and Belloc. He admitted that to them belonged the credit of having been the first to prescribe and employ topical medication in chronic diseases of the larynx. He maintained that he was the first to pass a sponge-probang loaded with a strong solution of nitrate of silver below the epiglottis, through the larynx and rima glottis, down into the trachea, thus reaching disease of these parts with more certainty.

Trousseau's method was to saturate the sponge with the solution of nitrate of silver; next, the mouth being open, to depress the tongue with the handle of a spoon and introduce the porte-caustique. As it is passed over the isthmus of the gullet, it produces an effort of deglutition which raises the larynx. This moment is seized upon for bringing forward the sponge, which, in the first part of the operation, had been carried to the entrance of the œsophagus. By this means he reached the opening of the larynx by elevating the epiglottis; and then, by pressure, it was easy to pass the caustic solution into the larynx. Dr. Green deserves the honor of having been the first to persist in this treatment, and practically he was the inventor, but he was not the discoverer. Sir Charles Bell made applications of caustic to the respiratory mucous membrane as early as 1816. In his work, *Surgical Observations*, will be found a record of these cases. In one case of extensive ulcerations of the glottis he says: "I made a small pad of lint, and attached it to the ring of a catheter wire after bending it so as to pass it over the tongue and epiglottis. I dipped the lint in a twenty-grain solution of caustic, and touched the glottis with it in this manner: With the finger of my hand I pressed down the tongue and stretched the forefinger over the epiglottis; then directing the wire along my finger, I removed the point of my finger from the glottis, introduced the pad of lint into the opening, and pressed it with my finger."

This treatment was considered hazardous and was abandoned. Mr. Vance, a naval surgeon of eminence, was in the habit of employing topically a solution of nitrate of silver in the treatment of laryngeal diseases. Dr. Stokes mentions Mr. Cusack as having introduced nitrate of silver by saturating a piece of lint sewed on the end of his index finger; by these means the solution was carried with great facility to parts of the pharynx and even to the rima. Trousseau contends that his master, Bretonneau, as early as 1818, carried over the arytæno-epiglottic ligaments a sponge wet with lunar caustic to the entrance of the larynx; yet Trousseau denied that Dr. Green or any one else could introduce instruments below the vocal cords; indeed, he maintained that the operation was impossible.

Dr. Green lived to see the best men abroad and in this country candidly admit that he had done as he reported that he had. Dr. Cotton, Dr. Hughes Bennett, Dr. Fordyce Barker, Dr. Sayre, Dr. Carnochan, Dr. Sims, Dr. Praslee Davis, Dr. Bowditch, of Boston, and Professor Davis, of the University of Virginia, had seen Dr. Green demonstrate the entrance of instruments into the larynx and trachea. They had all seen the passage of air coming through the catheter blow out the candle. Dr. Sayre, always fearless and truthful, so testified before the New York Academy of Medicine. An overwhelming demonstration was made at the request of Dr. Carnochan. Dr. Green introduced the probang through the larynx of a man who had attempted suicide by cutting his throat, and in whom the orifice in the trachea had never healed. Dr. Green passed the probang until it made its appearance at the opening in the trachea. This proved that there was no anatomical impossibility, as Trousseau had contended, of catheterism of the larynx.

Dr. Green wrote vigorously on the *Local Origin of Constitutional Diseases*, the converse of Mr. Abernethy's work on the *Constitutional Origin of Local Disease.* He advocated topical medication as of vast importance. This showed his independence of thought and his boldness in expressing his views at a period in the history of medicine when there existed such superstitious over-confidence in drugs administered internally for all the ills of life. He cared not for the unpopularity of thus combating polypharmacy. He had, it must be admitted, too implicit faith in the topical application of his favorite local application—nitrate of silver—for follicular disease, croup, spasmodic asthma, laryngitis, chronic bronchitis, and other diseases of the respiratory organs.

Dr. Green's work on *Polypi of the Larynx and Œdema of the Glottis* (1859) shows that the thoughtful observation of the author was turned toward the interior of the larynx, and that he was not to be led by traditional teaching, either in his views of laryngeal pathology or in his practice. Dr. Green did not hesitate to express the opinion, and to leave it for future experience to confirm or invalidate, that foreign growths occurred in the opening of the air-passages in many instances where their presence was neither suspected nor discovered; and that, if the attention of the profession should by any means be directed to this subject, it would be found that the existence of polypi and other excrescences in these passages was an occurrence much more frequent than had been supposed. On this point of pathology Dr. Green was far in advance of his day.

He diagnosticated the presence of these neoplasms by close and careful inspection, together with the subjective symptoms; he operated for their removal by laryngo-tracheotomy, and he healed cases of œdema of the glottis by scarifications and strong solutions of nitrate of silver.

In Dr. Green's article, published in 1857, on Lesions of the Epiglottis, there is a careful description of the minute anatomy of the cartilage, showing that its mucous membrane adheres closely to the cartilage on the laryngeal face, there being no areolar tissue interposed between the lining membrane and the cartilage, whereas beneath the mucous membrane on its anterior or lingual surface considerable areolar tissue is deposited. Disease, therefore, affecting this fibrocartilage must have its seat either in the mucous membrane or its follicles or in the subjacent areolar tissue.

He reviews the physiology of the epiglottis, calling attention to its very slight sensibility in health. While in its normal condition it is almost insensible—for it may be touched by the finger or with the handle of an instrument without producing any irritation—yet when it is inflamed it becomes much more sensitive and causes pain. When the lips of the glottis are reached a convulsive cough is produced. Dr. Green dwells on the function of this cartilage, together with other parts, in the protection of the larynx, as also of the supraglottic space. He writes, first, of the erosions or abrasions of its mucous membrane; secondly, of ulcerations of the membrane and of the glands; thirdly, of œdema or infiltrations of its areolar tissue.

These lesions of the epiglottis he justly maintains are of much greater frequency than has been generally supposed. Persistent coughs have been kept up by the presence of undetected erosions of the epiglottis. These he had greatly benefited by applications of lunar caustic. Dr. Green contended that the direct medication of the lungs by means of catheterism of the air tubes, an operation not before performed by any one, he had repeatedly accomplished, that the operation might be performed by the dexterous surgeon with ease and facility and with perfect safety to the patient, and that the results of this method of treating disease, whether it had been employed in bronchial affections or in the commencement of tuberculosis, had been very encouraging. Dr. Green reported one hundred and six cases of tuberculosis and chronic bronchitis treated by him, especially by catheterism of the air-passages, with great success. Following Dr. Green, Professor Hughes Bennett reported that he had repeatedly acted upon Dr. Green's suggestion with success. In Green's report (1859) on the Difficulties and Advantages of Catheterism of the Air-passage, he quotes freely from Bennett, Trousseau, Loiseau, Blondeau, and others—all strongly in favor, from their personal experience, of injecting the air-passages. The death of Mr. Whitney fourteen days after Dr. Green had passed an instrument into his throat prejudiced many against him; he had pushed the instrument with some force through an obstruction. In operating, he felt something give way—an abscess probably. Mr. Whitney's death created a great sensation. Trousseau, Bennett, and Rokitansky wrote letters after receiving the details, stating that they did not think the operation had anything to do with it. Trousseau said the abscess existed before the operation.

Dr. Horace Green encountered great opposition throughout his professional life. His originality and his persistent maintenance of his views, which he knew were founded upon close observation, attracted much attention and caused no little jealousy. I may be allowed to say that, after having practiced in 1854 upon Dr. Green's views, and subsequently (1859) with M. Buchut's suggestion in catheterizing the larynx, I determined to go to New York to see Dr. Green and to get some practical points from him. I did so, but, after reaching New York, I was dissuaded by prominent New York physicians from calling on him. Some of them said he was a charlatan who was guilty of pretending to do what he could not do. I now regret that I left the city without seeing him.

This occurred when the feeling against Dr. Green had culminated and a committee of the New York Academy of Medicine had been appointed to investigate Dr. Green's views. So great was the feeling against Dr. Green in New York that the Academy of Medicine, after their committee had made their report, which was a divided one, although they could not convict him, yet they did him the injury of allowing no vote to be taken, and the report remained for over five years on their table unacted upon. Afterward, although men of the highest character indorsed him and his statements, they did not, as far as I can ascertain, withdraw the charges against him.

Why was Dr. Green so unpopular with his professional brethren? He certainly was a gentleman of high culture and great ability, very laborious, conscientious, and persevering. His great success made him a mark for jealousy. His studies and his taste led him to carve out for himself a specialty when specialties were not considered allowable. All specialism, particularly ours, was considered questionable from an ethical point of view.

Dr. Green was calculated to be a leader in medical thought. Had his health permitted, he would have availed himself in his declining years of Garcia's discovery, and no doubt would have enriched the new science of laryngoscopy by his accurate observations.

Time and justice have rescued his reputation. As Americans we are proud of him. We gratefully acknowledge that his works revolutionized the pathology and treatment of laryngeal disease. "His researches," says our eminent president, "formed an epoch in the study of laryngeal inflammation." They dissipated the clouds that surrounded laryngology and assisted at the dawn of laryngoscopy.

Our former secretary, in his wonderfully accurate photograph of our fellows, appropriately placed Dr. Horace Green as the central figure.

Action of Cod-liver Oil.—"MM. Gautier and Mourgnes, in a recent communication to the Academy of Sciences, discuss at some length the reasons why cod-liver oil is superior to other fats as a therapeutical agent, and arrive at the following conclusions: 1. It is more easily assimilated, owing to its containing free fatty acids and some biliary matters which render its emulsion specially easy when it comes in contact with the pancreatic juice. 2. It is rich in phosphates, phosphoric acid, lecithin, and phosphorus in organic combination; the phosphorus, especially in the last-mentioned form, is very readily assimilated to form protoplasm, and thus nutrition is greatly stimulated. The small amounts of bromine and iodine being also present as organic compounds exercise a beneficial influence on the general metabolism. 3. The alkaloids present—butylamine, amylamine, morrhuine—and morrhuic acid stimulate the nervous system, increase the amount of sweat and urine, and act as nervine tonics."—*British Medical Journal.*

OCULAR DEFECTS AS A FREQUENT CAUSE OF HEADACHE.*

By WILLIAM HOLLAND WILMER, M. D.,
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If there is one malady more than all others that has taxed the ingenuity of the physician in regard to alleviation or cure, that one is headache. The brain, with its coverings, as a part of the body, and not an isolated organ, has a more or less close connection by nerves and blood current with other organs; and experience has established the fact that disorders existing in distant portions of the body, among other manifestations, may exhibit themselves in the form of headache. Therefore, a symptom ætiologically and pathologically so complex can not be relieved by any single remedy. It is only by tracing the symptom to its cause, and by removing or correcting it, that we can hope to afford relief. A very frequent cause of head pain is some defect in the visual apparatus, but the causal relation between the two has only of late obtained due recognition. Recently, not a little has been written upon this subject, but it is not the writer's object to give the literature, but simply his personal experience with this class of cases.

Here let me say parenthetically that I do not intend to exclude other causes of headache. Our *confrères* the general practitioners are prone to believe that the specialist has become so warped by specialism that he can behold only the *mote* in the eye, while the *beam* in other organs is not recognized. I must admit that there has been ground for this opinion. Some of us, like the birds and species of reptiles, seem to have developed a mental membrana nictitans by which we exclude from our sight all portions of our patients' bodies except their eyes. For the past few years the writer has carefully noted the clinical features of the cases as well as corrected the ocular defects.

The headaches which the ophthalmologist meets with fall under two classes: One, in which the symptom is directly traceable to the use of the eyes and is accompanied by other signs of asthenopia—such as weak feeling of the eyes, watering, strained sensation, and inability to use them for any length of time. In the other class, the vision is apparently perfect and the eyes themselves free from pain, yet headache is often severe. I do not recall a single case coming under the first classification in which the headache was not cured, or relieved, by the proper glasses.

Cases under the second category generally come to the oculist after previous medical treatment, and frequently by the advice of the family physician, or, as a *dernier ressort*, at the suggestion of a friend. Such patients attribute their headache to some other organ than the eye; for it is difficult for them to understand how headache can result from eye strain when the vision is good and the eyes themselves free from pain.

In cases of this division a goodly proportion of headaches were relieved or cured by the systematic use of glasses—often to the joy and surprise of the patient. However, nothing can bring out the point so well as a recital of a few of the most interesting cases, which I will give in some little detail even at the risk of becoming tedious.

I select at random a few cases in which the age of the patient, the refraction error, and the length of duration of the headache vary. I am indebted to my friend Dr. Gruening, of New York, for the use of his case books, from which these cases were taken:

Case I. *Hyperopia.*—E. M., aged nine, came to the office with the following history: Vision had been apparently perfect until three days before, when he noticed that figures on the blackboard, which were previously clearly seen, could no longer be recognized. He had suffered from frequent headache since he first started to school, but during the past three days has had constant dull pain in forehead and temples. Sight in either eye one fifth of normal. Tested by glasses, there was an apparent myopia of $\frac{1}{24}$. With this correction, the vision for distance was normal. One hour after the instillation of a one-per-cent. solution of atropine the pupils were fully dilated and patient said that his head felt better than it had for three days. At this time a hyperopia of $\frac{1}{48}$ was found. Three days later patient returned, after the systematic use of atropine, with the statement that he had had no return of the headache since last visit. He showed a total hyperopia of $\frac{1}{30}$ at this visit, and glasses correcting the full defect were given. There has been no return of the headache.

Case II. *Compound Myopic Astigmatism.*—V. M., aged fifty-two, was seen in November, 1888. He complained of great difficulty in reading, especially by artificial light. Upon being questioned, he said that he had more or less constant dull pain in the head, principally at the back part. He added that he did not expect to be relieved of that. He had never worn glasses. Sight in either eye $= \frac{2}{5}$; with the proper correction, normal. A combined concave cylindrical and spherical glass was prescribed for the distance, while for reading the astigmatism and presbyopia were corrected by another glass. The headache, with the other symptoms of asthenopia, disappeared after the use of the glasses.

Case III. *Mixed Astigmatism.*—J. F., aged thirty-five, is the last that I will recite. The patient, a Wall Street broker, came to the office in April of the past year. He suffered from insomnia and from headache which extended from the top to the back of the head. Prolonged medical treatment had given no relief other than the production of sleep by hypnotics. Sight $= \frac{2}{7}$; with the correction, $= \frac{2}{3} +$. The hyperopic element of the astigmatism, which was predominant, was corrected temporarily, and the patient informed that it would probably be necessary to re-examine the eyes under a mydriatic, when other glasses could be prescribed. The patient received his glasses the same afternoon, and returned three days later to report that during the past few days he had been free from headache, and had slept without a hypnotic better than he had done for years. The relief was so great that another examination has been thus far not imperative.

In the first case the *constant* headache was of only three days' duration and came on at the same time as the ocular symptom of near-sight. Owing to the spasm of the ciliary muscle, not only was the existing hyperopia masked, but apparent myopia produced. The headache was relieved when the ciliary muscle was put at rest by atropine.

The headache in the next case had lasted through the patient's lifetime, but had not been attributed to the eyes; in fact, it was only the other symptoms of asthenopia that brought him to an oculist.

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* Abstract of a paper read before the Medical Society of the District of Columbia, May 28, 1890.

The third case is interesting on account of the reflex nervous symptoms that accompanied the headache. The glasses relieved him when three years of medical treatment and traveling had failed.

As the correction of an ocular error can relieve headache, so the production of such a defect artificially may cause it. This fact is exemplified in the writer's experience with *dark curved* glasses. All glasses of this description brought by patients to the office during the two years following September, 1887, were examined and their refraction noted. They, without exception, possessed the action of a concave glass in one or all meridians. There were concave sphericals, the same with concave cylinders, and, with these, a variety of combinations with prisms. In the majority of cases the glasses were irregularly concave. The cheaper grade of glasses worn by dispensary patients presented the same defects to a greater degree. The writer has had some personal experience with headaches from this cause. Some years ago I purchased colored glasses to wear while traveling. For a short while they were agreeable, but in the course of half an hour pain extending from forehead to occiput supervened. A slight amount of hyperopic astigmatism in my case will account for the pain caused by the irregularly concave glasses.

Not by any means can every headache be cured by glasses. It may require the care of the general physician, the gynæcologist, the rhinologist, the neurologist, or even the surgeon.

The headaches that belong to the domain of the general practitioner are legion, e. g., the various toxæmic headaches and those dependent upon other general disorders. Again, we all know of frontal headaches due to disease of the frontal sinuses or to nasal occlusion.

In conclusion, I think we may safely say that headaches, even where the eyes seem perfect, can frequently be cured by properly adjusted glasses.

At times, the true condition of the eyes can only be found under the influence of a mydriatic. Especially is this the case with children.

The fact that headache disappears under the influence of a mydriatic gives ground for prognosticating relief by glasses.

Flat smoked glasses should be worn, if a colored glass is necessary, when the patient is not myopic or when the accommodation is not completely paralyzed.

Finally, the existence or non-existence of eye strain should at least be known in cases of obstinate cephalalgia before any course of treatment can be intelligently adopted.

Antipyrine for Erysipelas.—"Dr. Favre, of Fribourg, relates an unusually severe case of erysipelas, showing the high curative value of antipyrine. A woman, aged thirty, suffered from facial erysipelas accompanied by somnolence, vomiting, constipation, and high fever. In spite of the local application of cold, carbolic acid, ichthyol, corrosive sublimate, strips of adhesive plaster, etc., the morbid process gradually spread over the scalp, neck, chest, upper extremities, abdomen, and buttocks. On the tenth day the administration of antipyrine was commenced, with the result that fever at once markedly decreased, the patient's subjective state greatly improved, and the erysipelas soon ceased to spread."—*British and Colonial Druggist.*

HÆMORRHAGE AFTER AMYGDALOTOMY,

WITH A DESCRIPTION OF A GALVANO-CAUTERY AMYGDALOTOME.

By JONATHAN WRIGHT, M. D.,
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The question of hæmorrhage after amygdalotomy has been the theme of many animated discussions in various society meetings. The symptoms for which amygdalotomy is usually performed are, as a rule, so little threatening to life and to comparatively good health that it has seemed to many that even the few cases reported of serious hæmorrhage form a contra-indication to the operation. On the other hand, the less conservative are disposed to disregard the danger, estimating it as infinitely small, pointing both to the extremely small percentage of cases of dangerous hæmorrhage when all amygdalotomies are considered, and to the assertion* that no case of *fatal* hæmorrhage with modern methods has ever been reported. These are two extremes of opinion, much of it expressed in the heat of debate. This is one of the many questions where a mean position is probably the more tenable.

It has never been my misfortune to have any case of considerable hæmorrhage following amygdalotomy, neither has any such case come under my direct observation in the practice of others; but in looking over the literature of the subject, as well as in considering the cases which have come to my knowledge, the fact has been very apparent, and the remark has frequently been made before by others, that in the very large majority of cases the patients were adults. The fibroid elements in a hypertrophied tonsil, which always increase relatively as age advances, and often absolutely, form a less favorable tissue for the retraction and closure of cut vessels than the soft, spongy mass of a young tonsil made up largely of lymphoid tissue.

In order to ascertain how many of the cases of hæmorrhage reported after amygdalotomy were in adult patients, I have requested Dr. R. Lorini, of Washington, to search the records of the last twenty-five years in the Surgeon-General's office. Dr. Lorini has not been able to find the articles denoted by the following references: De Blois, *Boston Med. and Surg. Jour.*, Mar., 1887, p. 309; Billroth, *Aerztl. Intell.-Blatt*, 1870, No. 31, and *Wien. med. Woch.*, 1870, No. 49. The following-named journals were not accessible at the time of making the search, the volumes being at the Government bindery: *Med. Record*, xxiii, 1883; *N. Y. Med. Jour.*, l, 1889. Dr. Lorini remarks that Ricordeau, in his thesis, states that Cheselden reported two cases of death from hæmorrhage after removal of the tonsils with the bistoury, no details being given. I insert herewith the report as he made it to me.

Several facts are especially noteworthy.

It will be seen that the total number of cases reported is not so large as might be expected. It will also be seen that in the list are two fatal cases, one in an adult of twenty-four or twenty-five, in which no mention is made of the instrument used. The other fatal case was in a boy of eight

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* Delavan, *Trans. of the Am. Laryng. Assoc.*, 1888.

CASES OF ALARMING HÆMORRHAGES AFTER AMYGDALOTOMY.*

Sex.	Age.	Disease or condition requiring operation.	Instrument used.	Ultimate result.	Operator, reporter, reference, and other remarks.
			UNITED STATES.—17 cases.		
Female..	Middle..	Hypertrophy of right tonsil.	Amygdalotome (no pattern ment'ned).	Recovery.	Dr. A. M. Fauntleroy, *Amer. Med. Weekly*, Louisville, ii, 1875, p. 498. Patient was very full-blooded; ice-packing upon neck employed.
Male....	18... ..	Hypertrophied tonsil.	Tonsillo-guillotine.	“	Dr. L. D. Kastenbine, *Louisville Med. News*, i, 1876, 280, 281. Hæmorrhage stopped by patient walking home with mouth open.
Male....	25......	Hypertrophied tonsil.	Tonsil bistoury.	“	Dr. G. M. Lefferts, *Arch. of Laryngol.*, New York, iii, 1882, 37. Pressure applied directly upon surface.
Male....	35......	Hypertrophied tonsil.	Mackenzie's amygdalotome.	“	Do. Hæmorrhage from artery at right stump; artery twisted, hæmorrhage stopped.
Female..	Young..	....	Amygdalotome.	“	Do. Artery twisted.
Male....	....	Hypertrophy of right tonsil.	Amygdalotome.	“	Do. Do.
Female..	30......	Enlargement of left tonsil, acute inflam.	Mackenzie's modification of Physick's guillotine.	“	Dr. Clinton Wagner, *Tr. of the Am. Laryngol. Assoc.*, 1886, New York, 1887, viii, 185. Artery twisted with artery forceps.
Male....	25......	Hypertrophy of tonsil.	Mathieu's amygdalotome.	“	Dr. S. E. Fuller, *Amer. Jour. of the Med. Sci.*, Phila., xcv, 1888, 357. Carotis commun. ligated; saline solution (12 oz.) transfused into radial vein.
Male....	21......	Quinsy.	Mathieu's amygdalotome.	“	Dr. L. E. Blair, *Albany Med. Ann.*, ix, 1888, 41–47. Hæmorrhage from left tonsil; ice and compress.
Male....	27......	Amygdalitis.	Mathieu's amygd'lot.	“	Do. Hæmorrhage from right tonsil; stopped by compress.
Male....	22......	Hypertrophy of both tonsils.	Volsella and angular scissors.	“	Dr. E. W. Clarke reported and performed ligation; Dr. T. M. Markoe, operator, *N. Y. M. J.*, xlviii, 1888, 7. Hæmorrhage stopped by ligation of stump.
Male....	Young..	....	Physick's amygdalotome.	“	Dr. Daly, *Tr. of the Am. Laryngol. Assoc.*, 1888. N. Y., 1889. Hæmorrhage stopped by compress.
Male....	34......	... .	Amygdalotome (no pattern ment'ned).	“	Dr. D. Bryson Delavan, *Tr. of the Am. Laryngol. Assoc.*, x, 1888, N. Y., 1889, 153–163.
Female..	7.......	....	Fahnestock's.	“	Do. Patient was a hæmophile.
Male....	Adult...	....	Guillotine (no make mentioned).	“	Dr. R. J. Lewis, *Med. News*, Phila., liii, 1888, 640. Hæmorrhage stopped by application of a tenaculum through base of tonsil and twisting it.
Male....	....	....	....	“	Dr. A. Vander Veer, reporter; Dr. Alden March, operator; *Albany Med. Ann.*, ix, 1888, 41–47. No details given.
Male....	48.. ...	Tonsillar hypertrophy.	Mathieu's amygdalotome.	“	Dr. F. Park Lewis, *J. of Ophth., Otol., and Laryngol.*, N. Y., i, 1889, 115–117. Hæmorrhage, 4 qts. in 17 hours from left tonsil.
			AUSTRIA.—1 case.		
Male....	31......	Syphilitic enlargement of right tonsil.	Hook and bistoury.	Recovery.	Dr. Güntner, *Oesterr. Zeitschr. f. prakt. Heilk.*, Wien, 1872, xviii, No. 52, p. 839. Patient a hæmophile, syphilitic, common carotid ligated.
			FRANCE.—8 cases: 6 recoveries, 2 fatal.		
Male....	21......	Hypertrophy of tonsils.	....	Recovery.	Gayat, *Thèse*, Paris, 1868, No. 275, p. 52. Jarjavay operated, right tonsil removed.
Male....	Young..	Hypertrophy of tonsils.	Amygdalot.; operat'n by patient himself.	“	Mary, *Thèse*, Paris, 1875, No. 29, Verneuil, operator. Hæmorrhage stopped by perchloride of iron.
Male....	35......	....	....	“	Do. Broca, operator, 1869. Both tonsils removed; patient a hæmophile; hæmorrhage stopped in two hours by direct application of ice.
Female..	20.. ...	....	....	“	Do. Do. No details.
Boy.....	....	....	....	“	Ricordeau, *Thèse*, Paris, 1886; Reclus, operator. Both tonsils removed.
Male....	24–25...	....	....	Fatal.	Do. Broca, operator, 1879. No details.
Male....	8½......	Double tonsill'r angina; hypertrophy.	Amygdalotome (no pattern ment'ned).	“	Do. Nov., 1879. Cause of hæmorrhage, anomalous internal carotid.
Male....	20......	....	....	Recovery.	Dr. Saint-Germain. No details; hæmorrhage stopped by ice applied around throat.
			GERMANY.—1 case.		
Male....	31.....	....	Cautery (probably thermo-cautery).	Recovery.	Dr. Werner, Oct. 11, 1887, *Med. Cor.-Bl. d. würtemb. ärztl. Ver.*, Stutt., lviii, 1888, 241. Manual compression of carotis for 10 days.
			GREAT BRITAIN.—3 cases.		
Male....	....	Hypertrophy of left tonsil.	Bistoury.	Recovery.	Dr. Wharton P. Hood, *Lancet*, 1870, vol. ii, 600. Small calculus within tonsil; vomiting stopped hæmorrhage.
Male....	....	....	....	“	Do. No details; both tonsils excised; sulph. of zinc administered; vomiting, hæmorrhage stopped.
Male....	34......	Chron. follicul'r amygdalitis.	Mackenzie's for right tonsil and tonsil-sickle for left ton.	“	Dr. J. Walker Dounie, *Edinb. M. J.*, xxxii, 1886–'87, 116. Hæmorrhage stopped by actual cautery.
			SWEDEN.—1 case.		
Female..	....	Hypertrophy of tonsils.	Forceps and blunt bistoury.	Recovery.	Dr. Lidon, 1880, *Hygeia*, Stockholm, xlii, 1881, p. 256. Ligation of common carotid.

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* Since this table was compiled I note the report of a case of hæmorrhage after amygdalotomy, in a child seven years old, during active inflammation of the tonsils. (Moure, reference in *Jour. of Laryng.*, 1890, No. 8.)

years and a half, in which the operation was performed with an amygdalotome. The cause of death in the latter instance was the wounding of the internal carotid artery, which pursued an anomalous course, so that no precaution could have averted the catastrophe.*

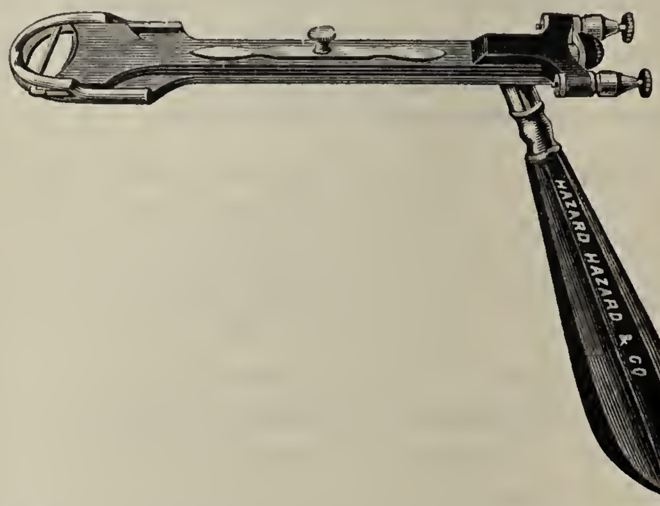
Delavan's case of hæmophilia is the only other one in which the age is given where the patient was a child.

It is, of course, impossible to say how many unreported instances of hæmorrhage have occurred. There is hardly a physician who has not heard of or observed one or more. When we consider how comparatively few amygdalotomies are done after the age of eighteen or twenty, the chances of the occurrence of a very undesirable amount of hæmorrhage in any given adult case are not so few as to be disregarded if there is any way of lessening the danger. The question of fatality or recovery from the immediate effects of the hæmorrhage is not the only one to be considered. The loss of a large quantity of blood may often cause serious impairment of the general health for many months. It is a common cause of chronic anæmia, an affection which most frequently baffles the skill of the physician and exhausts the patience of friends. Although the operator himself may not be unduly alarmed, unless, as in one case in the list, he himself happens to be the victim, the patient and his friends are always, in spite of the most positive assurances, greatly agitated.

When all these facts are considered, I can not see how amygdalotomy under ordinary indications is a justifiable operation in adults when there is a safer and quite as efficient method of procedure. On the other hand, I am unable to perceive why any other than the cutting operation should be done in children, since the danger is practically *nil* and the difficulties of other procedures are very much greater.

Ignipuncture has been extensively used as a substitute for amygdalotomy. I have employed it in a large number of cases, and a year or two ago gave a short account of my experience in a letter to the *Medical News*, March 24, 1888. In children it is only of value in my experience where the tonsillar tissue is diffuse and does not project beyond the faucial pillars. In these cases a cutting operation is ineffectual and usually impossible. If the child is tractable and cocaine is applied, the platinum point of the galvano-cautery can frequently be used advantageously to burn down the irregular nodules of lymphoid tissue between the pillars. In burning adult tonsils, eight to twelve sittings are often necessary, the number, of course, depending upon the size and extent of the hypertrophy. There must be a week or ten days between each sitting. Occasionally, in spite of cocaine, the applications are disagreeably painful, especially toward the last, when the hot wire is used in close proximity to the mucous membrane. In the above-given table a case of hæmorrhage after the cautery has been reported. It is a little hard to understand how such a thing could occur to any sensible operator or with any reasonable procedure unless a vessel of very large size (internal carotid) was wounded by the penetration of the hot point. Nevertheless, the case should be kept in mind.

Notwithstanding these disadvantages, I believe ignipuncture in adults preferable to amygdalotomy. Preferable to both, however, is the removal by the galvano-cautery snare as recommended by Dr. Knight.* I have used it several times, both before and since the appearance of the paper. The principal objection to it is the extreme difficulty frequently encountered in the satisfactory adjustment of the platinum or irido-platinum loop. The reflex movements of the patient's throat are often so pronounced as to render the procedure almost impossible. After my clothing had formed the repository of the contents of one patient's stomach, I began to cast about me for some pleasanter method of accomplishing my purpose. The instrument figured here has been the result.



As will be seen at a glance, it is the adaptation of an ordinary Mackenzie amygdalotome to galvano-cautery purposes. Instead of the steel blade with the convex cutting edge, a non-conducting material (compressed paper) is used, and one end hollowed out into a crescent. Across this is stretched a platinum wire which represents the sharp edge of the cutting instrument. This is connected by means of copper wires, inlaid along the sides of the blade, with the binding screws at the other end. Here, by means of the ordinary spring, the circuit from a cautery battery is closed by the pressure of the thumb as the blade is driven against the mass included in the loop of the instrument when adjusted. The frame of the instrument is the same as that of the Mackenzie. The platinum and copper wires are so arranged that the former can be cheaply and easily replaced when by accident it is burned through.

Of course this instrument can be as easily adjusted as the ordinary amygdalotome. The tonsil can be severed as quickly as with a knife if the wire is heated white hot, but by regulating the current the operation can be done as slowly as may be thought desirable. It must be remembered that more of the tonsil is destroyed than is represented by the part cut away, the cauterization of the stump causing marked retraction after healing. With the galvano-cautery snare the edges of the faucial pillars are apt to be severely cauterized, often causing great pain for several days after the operation. This is entirely avoided by the galvano-cautery amygdalotome. I can not say that the device will entirely abolish all danger of secondary hæmorrhage, but it must be apparent to every one that it will greatly diminish the risk. I have not as yet had an opportunity of using the instrument extensively, but I present it because I can not, theoretically, see why it should not do the work required with a great diminution of the risk.

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* Dr. Lorini assures me that no mention of these cases can be found outside of Ricordeau's thesis.

* *Trans. of the Am. Laryngol. Assoc.*, 1889, p. 79.

In one case of large, flat fibrous tonsils, it removed them on both sides with very little pain (the patient complained of none) and no hæmorrhage whatever. The retraction of the stumps has been more marked than usual where they are adherent to the pillars on all sides.

I am indebted to the surgical-instrument department of Hazard, Hazard, & Co. for the execution of the idea.

A PRACTITIONER'S EXPERIENCE IN INFANT-FEEDING.

By CUVIER R. MARSHALL, A.M., M.D.,
PHILADELPHIA.

It may seem to be almost a useless waste of time to attempt to add anything to the volumes of matter which have been written upon the subject of infant-feeding, and the only excuse the writer has to offer for the present intrusion upon the time and patience of the busy readers of the *New York Medical Journal* is a desire to present the results of a summer's experience in the management of artificially fed infants. I am of the number of those who believe that cow's milk is the best substitute for the mother's milk in the vast majority of cases. I have met with instances among the poor where children of from two to four months of age have been fed on cold cow's milk, undiluted, except when that precaution had been kindly taken by the milkman before delivery. In many of these cases apparently no evil results were noticeable. I have frequently seen upon the streets of our cities infants being wheeled about with the omnipresent nursing-bottle conveniently arranged in such a position as to enable the child to feed at pleasure without any regard to proper periods of digestion, and yet those children seemed to thrive. These facts are not offered in support of such improper methods, for they can not be too strongly condemned; and we all know how, on the other hand, a very slight departure from the strictest cleanliness or the greatest care in the preparation of the milk will bring on, in many infants, various types of gastric and intestinal derangement. I was once very favorably impressed with the possible value of some of the artificially prepared foods of the Liebig class, the so-called malted foods, but, after having given them a fair trial, I was led to conclude that they would give satisfactory results in exceptional cases only. The class of infants with which we, as general practitioners, have to deal with reference to the regulation of the diet is that large number of puny, sickly children possessed of very feeble digestive powers, with which class I have found the malted foods to disagree, producing vomiting, and, on account of their laxative properties, diarrhœa. In my experience, the wheat foods should not be given to young infants unless everything in the milk line has been proved to be impracticable; young infants can not digest starch, and, although some very able writers and teachers advise the use of starch in these cases, I am unable to obtain the results alleged for this class of foods. One leading authority has asserted that the addition of a small quantity of barley water or oat-meal water to cow's milk will prevent the curdling of the casein in large masses; but I have failed to obtain any such much-desired result from that procedure. Starch is digested in the infant by the saliva; the young infant does not secrete a large quantity of that fluid, and, even if it did, it does not masticate the food and incorporate with it the saliva as the adult does; but the starchy food being received immediately into the stomach ferments there, and is apt to give rise to unpleasant results.

The most efficient agent for the artificial digestion of milk which has been brought out by modern enterprise is the extract of pancreas, as prepared by several well-known firms. By its use the casein may be completely converted into peptone for use in cases of children of very feeble constitution, or it may be only partially digested for stronger infants, in which condition, on the addition of a few drops of any acid, the casein will precipitate in fine flakes, the effect resembling that produced by the action of the gastric juice on human milk. Any one can make this experiment for himself, and it will show at once the great value of this agent in the preparation of infant food: Warm a small quantity of fresh milk, and pour an equal portion into each of two test tubes; note the reaction of both specimens, and, if not alkaline, add a few grains of bicarbonate of sodium; and into one test tube drop a grain of a good extract of pancreas; shake both tubes and allow them to stand for eight or ten minutes; at the expiration of that time, add to each sample a few drops of nitric acid and observe the result. The casein in the sample treated with pancreatin will precipitate in fine flakes, while that in the other tube will be curdled in dense, ropy masses, just as the same result is produced in the stomach of the infant by the acid gastric juice. The method of artificial feeding which I have adopted after much study and careful reading and observation is the following: Care is taken to obtain the milk from a reliable dealer. The milk supply of the city of Philadelphia is derived chiefly from the adjoining counties, and it is not difficult to obtain a very fair quality of milk. A number of ordinary prescription bottles are obtained, varying in size according to the age and weight of the child; these bottles are thoroughly cleansed and sterilized by boiling them for twenty minutes. While this is going on the milk is also sterilized by boiling, in the absence of the modern sterilizer, and at the end of the period of twenty minutes the bottles are immediately filled and tightly corked, the corks also having been boiled with the bottles. After cooling, the bottles are laid on ice until required for use. When the time for feeding has come, one bottle is opened and the contents are mixed with an equal quantity of boiling water; the temperature of this mixture will be about right for feeding, and in many cases it may be given without further treatment. When the stomach of the infant is in such an irritable condition that even sterilized milk will not agree with it, I am in the habit of using the pancreatic extract of the Fairchilds to partially or completely predigest the milk for administration. The mixture of milk and boiling water having been prepared as above, a few drops of a saturated solution of sodium bicarbonate are added (sufficient to render the reaction alkaline), and this is followed by the addition of a small quantity of extractum pancreatis, from one to three grains being used, according to the quantity of milk to be treated. The mixture is well shaken and allowed to stand at a uniform temperature of about 100° for from six to twenty minutes, when it is ready for use, the amount of undigested casein, of course, decreasing as the process is prolonged. My rule is to feed about every two hours in very young infants, about once in three hours being often enough after the second month.

I am sure that I have succeeded in saving the lives of infants in hot weather by the above-described process when every other method or article tried proved useless. The extra trouble involved is more than is ordinarily required to prepare the food, but after a few trials the process becomes quite simple. The articles required are from six to ten bottles (varying in size from two ounces to six in capacity), a few corks, a bottle of a saturated solution of sodium bicarbonate, and a quantity of a good extract of pancreas. The peptogenic milk powder of the Fairchilds is a very excellent article, and it probably enables us to so modify cow's milk as to obtain as perfect an imitation of human milk as it is possible to produce in the laboratory. I have used it with success, and the only objection which I have to it is the fact that, on account of the alkaline salts which it contains, the kidneys are powerfully stimulated and the urine is rendered alkaline, offensive, and abundant. The use of any artificially digested food is not to be continued for a longer time than is necessary to bridge over a critical period in the life of the infant, and as soon as the cool weather of the fall months returns, an attempt should be made to substitute for it pure cow's milk, properly diluted with water, according to the age of the child.

2243 NORTH SEVENTEENTH STREET.

HYPERTROPHY OF THE TURBINATED BODIES, AND THE EVILS RESULTING THEREFROM.*

By CHARLES R. WEED, M. D.,
UTICA, N. Y.

In presenting for your consideration my subject to-day, I shall endeavor to be as brief as possible, refraining from lengthy anatomical and physiological details and descriptions, assuming that with these branches you are all familiar. Medical literature teems with the various diseases originating from turbinated hypertrophies, and to their cause, prognosis, and treatment I shall confine myself.

To the specialist I think I am justified in saying that, of the major number of nasal troubles that come within his province and that he is called upon to treat, anterior and posterior hypertrophic rhinitis stand pre-eminently first. During my residence here I have found that many so-called simple catarrhs arise solely from these hypertrophic conditions, which, unfortunately, have not been recognized early enough to have effected the relief sought for.

To simplify my subject I will divide the nasal cavity into its two regions: First, the olfactory, which includes the superior and the upper half of the middle turbinated bones. The membrane in this situation is more closely adherent to the periosteum and relatively thinner than in the second or respiratory area, is less vascular, and but moderately supplied with serous glands. Its nerve supply comes from the terminal branches of the olfactory, which, with nerves of sensation, are distributed solely to this region after passing through the apertures of the cribriform plate of the ethmoid. The superficial lining of this area of special sense is freely provided with cells (the olfactory cells of Schultz), and if these are destroyed the sense of smell is lost as completely as though the lobes or nerves had been divided.

The second, or respiratory region, includes the inferior turbinated bodies as supplied by the nerves of the fifth pair. The glands in this location are both mucous and serous, and considerably larger than those of the olfactory region. Their alveoli are filled with globules of fatty matter; hence in ozæna the crusts and discharges always contain decomposing fatty globules, which give rise to its characteristic offensive odor. So much for the regional structures; and now for the changes in them.

First, the most frequent cause of hypertrophy is the destruction of the vibrissæ, or hairs in the nostrils, they acting as the sentinels that guard the entrance to the respiratory tract from floating dust and coarse particles. The moist and ciliated mucosa, by its irregular contour and vibratile cilia, is specially adapted to hold the finer particles. These, on being deposited, act by stimulating the glands. Then a secretion is poured out, and this cleans the nostrils. Now, in connection with the hairs, if these cilia are destroyed, the above function necessarily ceases, and an inflammation begins which, if not treated at once, will result in hypertrophy. I always warn my male patients (for the habit I am about to mention is fortunately confined to our sex) against pulling the hairs from the nostrils—a habit not only pernicious in the extreme, but disgusting as well. The membrane covering the bones is first affected, becoming thickened in its three layers by constant irritation, and presents to the rhinoscopist a turgid, swollen appearance. Anteriorly the surface of the inferior turbinated bones is most prominent, and at times the membrane is so thickened as to cause complete stenosis by pressure against the septum. The middle turbinated, where the hypertrophy is great, takes more of a horizontal position; the membrane is more or less red according to the intensity of the inflammation present. This condition, if allowed to increase, results finally in the bony structures becoming hypertrophied, the posterior ends showing the condition, which requires a careful rhinoscopic examination to determine.

Of the varieties of hypertrophy there are two, the white and purple, the former being far more commonly met with than the latter. In shape they are rounded, their surface irregular, and their location posterior, often compressing the

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* Read before the Medical Society of the County of Oneida, July 8, 1890.

Eustachian orifices. This is particularly the case with the inferior turbinated bodies. The above conditions constitute the diseases known as hypertrophic rhinitis, anterior and posterior. Resulting from these conditions and the most frequent of all troubles is, first, deafness from pressure upon and occlusion of the Eustachian apertures; next, neoplasms of various kinds, polypi, ulcers, etc; pharyngeal disease, with its various conditions; laryngeal disease, resulting from the constant irritation produced by the dropping into the throat of the retained post-nasal secretions and the hawking process to dislodge them, often resulting in a catarrhal laryngitis and ultimately in consumption. Asthma is a very frequent sequela. Schmiegelow, of Copenhagen, in an essay published in London this year, places the cases of asthma caused by nasal diseases at about ten per cent. in males and six per cent. in females, and the cases tabulated, without exception, were cured by the result of proper treatment of the nasal passages. Hack, in his work published in 1884, although exaggerating the reflex conditions arising from hypertrophies, is nevertheless entitled to the credit of being really the first rhinologist to establish that asthma resulting from the hypertrophy of the turbinated bodies is a fact. Woolen says that asthma is especially due to hypertrophy of the posterior tips of the inferior turbinated bones and occasionally of the middle ones, which either touch the septum or curl on themselves and touch the outer wall of the nose. This same writer considers hypertrophy of the anterior tips the essential local factor of hay fever; while in our own country such men as Roe, of Rochester, Daly, of Pittsburgh, Sajous, of Philadelphia, and Bosworth, of New York, all agree with the foreign authorities just quoted. Hay fever, with its distressing symptoms, and even aphonia, caused, in my opinion, by a nervous reflex condition in persons of a highly sensitive nature, is another of the ills following these hypertrophic conditions. Cough in some cases is certainly from the same source. Vertigo is often present, and even epileptiform convulsions have been reported, though rarely, as arising from these hypertrophic conditions, while supra-orbital neuralgia, diffuse headache, and migraine almost invariably have their origin from nasal obstruction. I mention these diseases as being those most commonly complained of by patients suffering from hypertrophies. Of course, there are probably others more complex in character that we may be able to trace to the same origin, but, being rare, are naturally overlooked, and my time forbids a more extended research into them. I might add that Guye, of Amsterdam, Holland, finds aprosexia (inability to fix the attention) occurring mostly in young persons and especially would-be students—a condition due to nasal obstruction and hypertrophy; while Hill, of London, also tabulates a number of cases from this cause.

As to the treatment of these hypertrophies, it varies with different practitioners, as the cases present themselves, and according to the amount of thickening present. Of course, to relieve the hypertrophy is their first object, and for this purpose, if the membrane alone is diseased, the application of the galvano-cautery and the acids—nitric, chromic, and glacial acetic—may be tried. For myself I prefer the galvano-cautery as being more thorough and giving a quicker result. The almost universal treatment of spraying the nasal cavities with a two- or four-per-cent. solution of cocaine daily is to be condemned for two reasons: First, the relief is only temporary and simply tends to lessen any congestion of the membrane that may be present, while ultimately increasing the turgescence by causing an increased vascularity, and by, in many persons, setting up the cocaine habit. Lennox Browne, of London, freely condemns its indiscriminate use, showing that where there is a temporary relief from capillary engorgement of the turbinated bone, it results, if unduly prolonged, in anæmia with atrophy, or in an increase in the chronicity of the hyperæmia.

As regards the habit, I have had patients who, before consulting me, commencing with a two-per-cent. solution, have gradually increased it until a ten- or even a twelve-per-cent. solution has been used, showing how easily acquired this habit is.

Of course, where operations are necessary, either by the cautery, acids, or the cold snare, which may be used, then a six-per-cent. solution of cocaine thoroughly applied to the seat of the operation and solely for its anæsthetic effect is proper.

The next important step in the treatment is to see that the parts are kept clean by spraying with any of the mild and efficient alkaline solutions. Seiler's tablets are a very elegant preparation for this purpose, and for cleansing a coarse spray should be used, this to be followed by a nebulous spray of warm vaseline, which acts as a protective to the parts and hastens the cure.

Of course, while treating these cases it is necessary that your patients observe strict hygienic laws. I find it is a very good plan, where patients are able, to have them visit localities by the sea, for we are all aware how beneficial salt air is for those suffering from nasal troubles. The diet should be generous, bathing frequent, a fair amount of open-air exercise, and respiration through the nose.

Of course, should your patients be of a strumous diathesis, alteratives, with the different preparations of cod-liver oil, malt, etc., should be used.

A word in regard to the specula to be used in making examinations of the nose. The lighter and more delicate the better. The "Goodwillie" and "Folsom" are both to be commended, being light and very delicately made.

Meyrowitch has introduced a set of three that are admirable, being very light and self-sustaining.

Finally, I wish to add a few words of warning regarding the too frequent and indiscriminate cutting and gouging of the turbinated bones. Nasal plows, up-and-down saws, bone-gnawing forceps in the hands of the unskillful, inexperienced, and ambitious practitioner frequently cause great trouble, leading to more serious results than originally existed; whereas careful and delicate manipulation with the cautery or acids, though taking longer time, will, I am positive, repay you by the marked improvement following their use, and this, too, without submitting your patient to the torture of the cutting operations or to the dangers following them.

226 GENESEE STREET.

AN EARLY EXTRACTION OF CATARACT.

By S. DICKSON BARR, M. D.,
YORK, PA.,
MEMBER OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Mrs. S. S., a farmer's wife, sixty-five years of age, came to me complaining of indistinct vision. Objects appeared as in a mist, while in picking up anything like pieces of money she would miss some of them. This dimness began last winter and was gradually growing worse.

She had always been myopic, a minus-five-dioptre glass being necessary to give a good sight of the optic nerve—that is, as good as could be had through the lens, which was growing opaque.

I found beginning cataracts in both eyes, that of the right one being further advanced than the left.

With the right eye she could count fingers at three feet, while with the left eye she was able to recognize people at about ten feet.

In the lens of the right eye I found a central opacity not implicating the entire thickness of the lens, while at the periphery was a semi-opaque rim.

The striæ showed clearly, the red reflection of the retina showing between, giving the whole lens the appearance of a wheel.

The left eye was in a like condition, but not so far advanced.

Usually we advise patients who have as much vision as this to wait for some time until there is no more vision than is necessary to distinguish light in a dark room. In this case the patient was anxious to have the operation performed, and I, believing that the lens was in a condition to be extracted (although not nearly in the stage of opacity generally thought necessary before an attempt to remove is made), agreed to operate.

My belief was based on the following ideas, and the results seem to verify them.

Donders represents that the refractive power of the eye is at its maximum in a child aged ten years, and that from that age it decreases until at the age of sixty it is lost entirely. Certainly the ciliary muscle does not begin to degenerate at this early age, for this would be incompatible with the state of the general muscular system. If it is not the ciliary muscle, then it must be the crystalline lens which changes, since the accommodation is due entirely to these two. So, at the age of sixty years we have the lens in a condition of solidity that can not be changed by any amount of action of the ciliary muscle.

Is not this lens in a condition solid enough to admit of removal if it were necessary? Why should we wait until the lens becomes entirely opaque and retrograde metamorphosis takes place before operating? I believe that the lens is in a better condition for extraction when the patient begins to complain of the appearance of a web over the eye, and the lens shows the characteristic milky appearance sufficient to satisfy the examiner that it is a cataract that he is dealing with, than it will be in if allowed to remain until the patient is totally blind. In the first case, the lens being solid at the age of sixty years from natural causes, has not become atrophied as yet, nor brittle or scaly, but is a solid mass of almost the consistence of gum; the corticle having still adhesive power enough to hold well together, and the milky appearance being indicative of the separation of the lens substance from the capsule, the cataract can, by slight pressure, be forced out without any of the particles scaling off. But when the lens is allowed to remain until it is entirely opaque, so that there is no red reflection, it becomes brittle and changes into "molecular detritus."

Then, when an attempt is made to remove this lens, in breaking the capsule with the cystotome, these brittle particles or scales are disturbed at the same time and fall away from the lens, and so create a great deal of after-trouble. Another objection to making the patient wait until the eye is entirely blind is the great inconvenience which the patient will have to put up with. One may have to wait for a year or more (generally more) before the eye attains the so-called ripeness. These are my ideas based on the result of observation in a number of cases of different stages of growth.

In the case noted at the beginning of this article I operated on the right eye, making a von Graefe linear incision in the superior portion at the corneo-scleral margin, about three millimetres below a tangent drawn to the superior margin, making a corneal flap. An average-size iridectomy was done and the capsule opened by inserting the cystotome first on the left side of the pupil and moving it up and down, then across in the inferior portion several times, then up and down at the right side and several times across the superior portion of the capsule, in this way cutting a square piece out of it. While doing this I was careful to catch the capsule with just the tip of the hook, and, to do this right, I had an assistant with a strong convex glass focus the light from a lamp held near the patient's head on the capsule and lens. Now, by very slight pressure on the inferior portion of the cornea, the lens came out without the slightest trouble, not a particle remaining.

The eye was cleansed thoroughly after making sure that the iris was clear of the edges of the wound, and, instilling a few drops of atropine solution, I bandaged the eye carefully and allowed it to remain so until the next day. When I examined the eye the next day I found the pupil clear with the exception of an almost imperceptible web in the inferior portion of the pupil. This disappeared by the next day, leaving a beautiful black pupil.

The patient did not have the slightest pain, although no opiates were given. Her vision is excellent. I shall operate in a week or so on the left eye, which will allow enough time for all inflammation to subside in the right eye. In this case, although the patient was highly myopic, not a drop of vitreous was lost; whether this was due to the early operation or not I am unable to say.

In performing any cataract operation I always provide myself with a small syringe to flush the anterior chamber and wash out any particles which might remain there, but I found it entirely unnecessary in this case.

One of the best syringes for this use is one made by Dr. Lippincott, of Pittsburgh, in which one can regulate the force of the flow.

I should like very much to get the opinions of other men on this subject.

HOMONYMOUS HEMIOPIC HALLUCINATIONS.

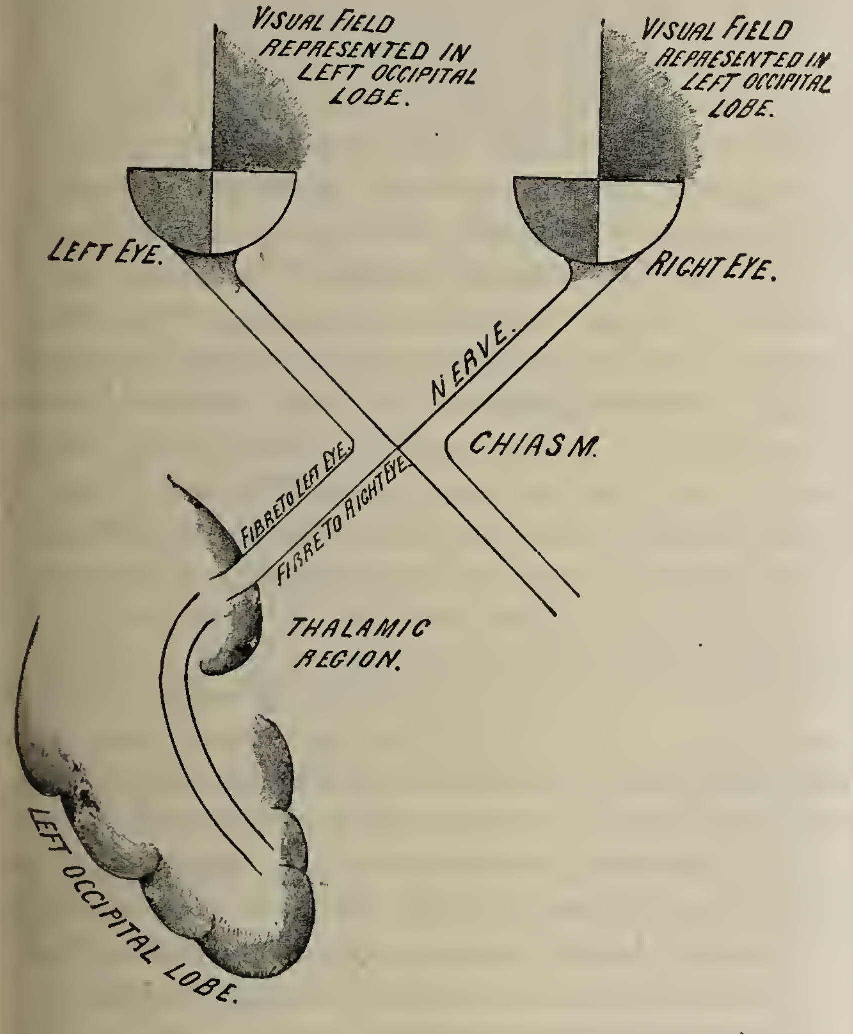
By FREDERICK PETERSON, M. D.,
CHIEF OF CLINIC, NERVOUS DEPARTMENT, VANDERBILT CLINIC.

The following history of a case of paranoia presents something unique in the way of visual hallucinations:

H. K., aged twenty, single, came to the Vanderbilt Clinic, June 10, 1890, complaining of persecution by unknown persons. He had noticed since January last that "mesmeric influences" were being used upon him, and the conspirators, three in number, have been redoubling their annoyances as time went on. He has unilateral hallucinations of hearing. There are three voices in his right ear, all talking to him and not to each other. They tease him, swear at him, curse him, and call him names. In addition to these uni-aural polyphonic hallucinations, he is tortured by disagreeable odors and by peculiar tastes in his water and food.

His visual hallucinations are singularly limited to the right visual areas of each eye, so that we may in fact speak of them as homonymous hemiopic hallucinations. He sees at times skeletons and various people, but always moving about and upon his right side, and this is true if either eye is shut. They never appear upon his left side. If he directs his eyes toward his right side, where the visions appear, they move still farther toward the right.

He complains of paræsthesiæ, flashes of heat and waves of cold through his body, jerkings of his muscles and viscera, and pains in his trunk and limbs, all of which he ascribes to electrical devices. Most of the pains in his trunk are restricted to the right side, but there is no unilateral distinction with regard to those of the limbs.



His hallucinations are conjoined with the delusions of persecution already mentioned. He thinks there are several persons, certainly three, who control him by mesmerism and annoy him by telephony and electricity. He has purchased a dozen books on mesmerism and clairvoyance, hoping to gain sufficient knowledge of the subject to be able to counteract the schemes of his enemies. Latterly his attention has been called to hypnotism and suggestion, and to the ease with which people may be influenced to commit theft and murder under such control, by reading the newspaper interviews with some of our leading specialists. He had copies of these interviews in his pocket and showed some of the illustrations, among which was that of a man, under hypnotic influence, plunging a dagger into another. The patient intimated that he had some fear of being made to carry out some nefarious undertaking by his imaginary hypnotizers.

Although no heredity could be ascertained, he exhibits marked facial asymmetry, and in particular a remarkable malformation of the hard palate, showing that he belongs to the superior degenerate classes. His is in fact a typical case of paranoia with systematized delusions of persecution which have been evolved from a degenerative soil.

The case is related, however, merely on account of the very remarkable character of the visual hallucinations. Their limitation to the right visual fields of both eyes is absolute proof of their central origin, and they doubtless arise through irritation in the cortical visual area of the left occipital lobe. It would seem as if the cortex of the left hemisphere were the chief seat of disturbance in this case.

Unilateral hallucinations of one eye alone, or uni-ocular hallucinations, have been described by several authors as occurring in the insane, but, so far as I know, this is the first reference that has been made to visual hallucinations of the character herein mentioned, and for which I can find no simpler name than that which forms the title of this article.

201 West Fifty-fourth Street.

THE SURGICAL TREATMENT OF POST-TURBINATED HYPERTROPHY.*

By A. E. PRINCE, M. D.,
JACKSONVILLE, ILL.

The little that I have to say on the removal of the hypertrophied tissue which is found at the posterior extremity of the inferior turbinated bone is particularly addressed to those who have found difficulty in the successful removal of these enlargements with the time-honored snare and the various methods of cauterization. That they may be removed with the snare or destroyed by the galvano- or chemical cautery is not brought into question, but that the difficulties attending either of these methods in the majority of cases is not small I am convinced both by personal experience and by valid testimony of men who are not unskilled in the inspection and manipulation of these parts.

Nothing sounds easier than the operation as described by Bosworth in his recent volume on the *Nose and Throat*, page 151. "The loop, having been bent slightly to one side before entering the nares, will by its own elasticity slip over the mass, when it can easily be drawn into place and the tumefaction cut through." "Of course there is liability to be considerable hæmorrhage as the result of this procedure, but if the operation be done slowly, a half-hour or even an hour being consumed, it may often be done without loss of blood. If, however, hæmorrhage does occur, a plug of cotton can easily be passed back and wedged between the cut surface and the septum and allowed to remain until the next day if necessary."

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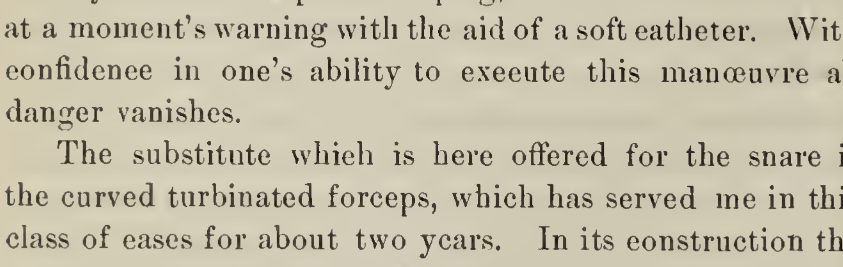
* Read before the Illinois State Medical Society, May 6, 1890.

The operation as above described is the standard operation for the removal of the posterior turbinated hypertrophy, and though it is usually efficient in the hands of a patient surgeon and has served the purpose in the past, there are, nevertheless, certain disadvantages, more or less real, which it may seem worth while to attempt to overcome.

The introduction of the wire and its adjustment over the tumor, so as to get the entire tumor into the loop, is not always easy. While tightening the loop over the growth, more or less of it may escape, often resulting in the removal of small portions and necessitating a repetition of the operation which is thereby made more difficult. In many of these cases the tumor consists more of dilated blood-vessels than actual hypertrophy, and in these cases it is almost impossible to apply the snare on account of its escape with the closure of the loop, in which case the removal of but a small portion of the mucous membrane may be the result. This difficulty is increased by the use of cocaine. The tedious nature of the operation, when attempt is made to avoid hæmorrhage, exhausts the patience of both patient and physician; besides, with the greatest prudence, hæmorrhage will rarely be avoided, and, when it occurs, the difficulty of ascertaining the result by ocular inspection is increased to such an extent that little is gained by an attempt at its prevention. Bosworth's procedure as recommended to arrest arterial hæmorrhage by "passing a plug of cotton back, and wedging it between the cut surface and the septum," will seldom succeed, because this space is wider than the anterior passage, and, besides, the hæmorrhage may not come from the lateral face but from the posterior end of the bone. Except in the purpuric state, I regard hæmorrhage as of no moment, because in the rare cases in which it does not spontaneously cease it may effectually be controlled at any location by the use of a posterior plug, which can be introduced at a moment's warning with the aid of a soft catheter. With confidence in one's ability to execute this manœuvre all danger vanishes.



The substitute which is here offered for the snare is the curved turbinated forceps, which has served me in this class of cases for about two years. In its construction the excellent septum gouge of Weir has been taken as a model, and it has been made with sufficient length to reach into the pharynx. To it has been given the curve of the convex surface of the inferior turbinated bone. The handles are so curved and the pivot is so placed that it can be easily opened after it is introduced into position. The size is such that it can be readily passed through the inferior meatus. The blades are so made that while the biting edges come into exact contact, the edges on the convexity of the blades are cut away so as to prevent the material in the grasp of the blades from interfering with their perfect closure.

Experience commends the following method of procedure: The patient is placed in a recumbent position and O'Dwyer's gag is applied on the right side of the mouth. A canvas cone is placed over the mouth and the patient instructed to breathe deeply and rapidly with emphasis on the exhalation. Two drachms of ethyl bromide are now poured on the cone and the respiration is continued in the same artificial, rapid, deep manner. If we are successful in controlling the manner of breathing, the patient will be anæsthetized in thirty to forty seconds, when the forced respiration will be changed to natural slow breathing.

If from any cause this manner of breathing is not maintained, the ethyl anæsthesia is not certain to be profound, when chloroform or ether may be added. The next step is the introduction of the left index finger back of the palate, bringing it in contact with the posterior end of the inferior turbinated bone, where the tissue in question will be distinctly felt as a soft, yielding mass. The forceps is then introduced with the concavity downward and will be found to glide easily along the floor of the inferior meatus until it can be felt by the finger. The cutting edge is then rotated outward and the blades are separated. This movement will bring the tumor between the tips of the blades, the position of each of which can be precisely determined by the sense of touch. The blades are now closed on the tumor and the concavity is rotated downward and inward through a semicircle while being withdrawn, the effect of which is partly to cut and partly to tear the mucous tissues and vessels, thus favoring the early arrest of the inevitable hæmorrhage. The operation is repeated on the opposite side without removing the finger from the mouth. The patient is then placed in a position favorable to the escape of the blood, a portion of which is always swallowed. The hæmorrhage, though seemingly profuse at the time, does not continue more than a few minutes, and but little blood is actually lost. In but one case out of about fifty have I found it necessary to introduce a plug to control the hæmorrhage.

My excuse for detailing this procedure so minutely is found in the desire that some may be led to practice the bimanual manipulation, which will be found invaluable in the removal of the pharyngeal tonsil and other forms of nasal polypi as well as this. The form of the blades of the instrument, aided by the sense of touch, often enables one to reach the origin of a pedunculated polypus, and in some cases a small portion of bone has been removed with the pedicle, thus demonstrating the efficiency of the operation.

Trusting that the procedure may find favor at the hands of those who may see fit to give it a trial, I submit it for your criticism and consideration.

Anomalous Outlet of the Coronary Artery.—Meigs reports an autopsy (*Univ. Med. Mag.*, May, 1890) in which the opening of the right coronary artery was found to lie directly in the angle between the right coronary and intercoronary flaps.

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NEW YORK, SATURDAY, AUGUST 30, 1890.

HYPNOTISM BEFORE THE BRITISH MEDICAL ASSOCIATION.

The obscure phenomena of hypnotism were made the subject of serious attention at the recent meeting of the British Medical Association at Birmingham, when a paper on the subject was read by Dr. Norman Kerr, which was followed by a discussion that occupied the time of the Psychological Section for two days. The reader of the paper accepted practically all the alleged hypnotic phenomena as facts, but in hypnosis, after close watching, he saw only a distorted cerebral state, a condition with exaltation of receptivity and energy which was abnormal. Several questions had to be answered when we came to consider the applicability of hypnosis to therapeutics. Only a limited number of persons were susceptible, and even in these the after-effect was a disturbed mental balance and nerve exhaustion. Deterioration of brain and nerve function, with intellectual decadence and moral perversion, was apt to follow frequent repetition. Dr. Kerr, moreover, maintained that hypnosis itself was a departure from health, a diseased state, a true neurosis, embracing the lethargic, cataleptic, and somnambulistic states, and that, if a disease was cured by hypnotism, it would merely be by the substitution of another disease. Hypnotic suggestion might sometimes temporarily assuage suffering, but the underlying disease was not necessarily cured, though evanescent oblivion might be secured, and the lethal power of the morbid disorder was in most cases increased. The few patients he had seen apparently benefited had in no way been beyond the reach of ordinary treatment, but they resisted or were passive to that, while they gave themselves up to the mesmerizer, and became the subjects of what he called a jelly-fish slavery, which was worse than days and nights of pain and rendered their lives total wrecks. In the somnambulistic state subjects had been compelled by the operator's behest to commit crime. So serious were the evils that French surgeons had been prohibited from practicing hypnotism in the army and navy.

The gauntlet was taken up by Dr. Kingsbury, of Blackpool, who has adopted hypnotism in his practice and professes to have effected many cures by its agency. After describing the peculiarities of the two schools of Paris and Nancy, he entered into a discussion of the dangers of hypnotism and the range of its applicability, and detailed the clinical histories of cases treated by him by hypnotic suggestion. In one instance a patient suffered from sleeplessness, the result of a neuralgia. He hypnotized the subject, and left a paper with him on which was written: "Go to sleep at once and wake up to-morrow morning at 7.30. You will have no pain when you awake." And the experiment answered admirably. Seven out of ten persons were susceptible to the influence. He maintained that hypnotism was a useful adjunct to regular treatment, and said that it behooved medical men to become familiar with it, so as to be able to use it in special cases. Demonstrations were then given by Dr. Kingsbury and Dr. Tuckey on two subjects brought for the purpose from Manchester. The usual performances were gone through with, in no way differing from those commonly seen on the public platform.

A general discussion of the subject then took place, in the course of which Dr. Gairdner, of Glasgow, said he should leave the meeting in a somewhat different state of mind from that in which he entered it, and had not the smallest doubt that many other persons present would be in a similar state to his own. A great many years ago he had been disgusted by an exhibition of hypnotism in the drawing-room. While he did not doubt that there was a great psychic force involved in it, still, he had the strongest feeling that there was something, to use a Scotch expression, "no canny" about it, and that it was not for physicians to tamper with. Dr. Clifford Allbutt sided with the hypnotizers in the discussion, and referred to Dr. Norman Kerr's brilliant rhetoric, but failed to find in his discourse mention of any facts. If the profession did not take up the subject, it was sure to fall into the hands of quacks. He did not think that medical men were justified in throwing the whole thing overboard. Dr. Hack Tuke had been much interested in the phenomena, and thought the subject had a direct medico-legal bearing. He gave instances of patients who had been directly benefited by it. Another speaker, alluding to the moral aspect of the question, asked very pertinently whether any of those present would allow their wives or their daughters to be hypnotized except on the strongest possible grounds. If not, they had no right to hypnotize others. The opinion was very generally expressed that it was time for the government to put a stop to the disgusting public exhibitions of hypnotism which were becoming very prevalent, and that it would be well for the British Medical Association to appoint a committee to investigate the whole question of hypnotism and to give facilities for experiments upon lower animals as well as upon human beings.

On the whole, this discussion, which is the first occasion on which the subject has of late years gained the serious attention of the profession, will yield good results. The matter has been carefully considered. Evidence *pro* and *con* has been weighed, and both sides have had a fair hearing. To whatever length the friends of hypnotism may go in France, it is certain that in England its title to be considered a therapeutic agent of utility must be fully proved before it is accepted.

REMOVAL OF THE PUERPERAL SEPTIC UTERUS.

In the *Deutsche Medizinal-Zeitung* we find the history of a case in which this procedure was resorted to by Dr. Stahl:

The patient was a primipara, thirty-five years of age, suffering with a subserous fibroma of the uterus. Her labor was spontaneous, but the membranes were completely torn away at the border of the placenta, and remained *in utero*. Puerperal septic endometritis resulted, for which curetting, with disinfection of the uterine cavity, was done. Notwithstanding, puerperal sepsis resulted, with thrombosis of the pelvic veins and threatening general symptoms. Softening of the nodes of the fibroma was apparent, and the author performed supravaginal amputation of the uterus and employed extraperitoneal treatment of the stump. The conclusion from this case is that the membranes should be removed, if possible, immediately after the removal of the placenta, or they may bring about serious disaster to the patient.

Let us hope the conclusion may not be drawn that, if the membranes are not removed and sepsis takes place, amputation of the uterus will be the proper thing to do. It would be obviously unfair to say it should not have been done in this case, for the gentleman in charge of the case was probably a better judge as to its gravity than one could possibly be from the reading of a brief history. The moral that must always be drawn from the record of such cases is that it may furnish an excuse for many a similar operation when other means would be more suitable. Certainly, in puerperal endometritis, as cases go, even when complicated with subserous myomata, he would be a dangerous man who would counsel extirpation of the uterus as a means of treatment. In the balance, which would weigh the heavier—we mean in the average, yes, the majority of cases—a puerperal septic endometritis, or the dangers of the supravaginal extirpation added to the enfeebled condition resulting from sepsis? We leave out of consideration the question of removal of an important organ in a state of full functional power. The recent words of Greig Smith are golden words, that to sweep away the reproductive organs is retrograde surgery, unless it is necessary to save life.

MINOR PARAGRAPHS.

THE PROTEIDS IN THE URINE IN VARIOUS FORMS OF ALBUMINURIA.

Dr. D. Noel Patton, Mr. John Douglas, and Mr. Ronald Mackenzie publish in the *British Medical Journal* the results of numerous observations on albuminuria in acute and chronic parenchymatous nephritis, in amyloid disease of the kidney, and in heart disease, on functional albuminuria, and on the causes that increase or diminish albuminuria. They consider that Senator was right in the conclusion that, in all cases of albuminuria, both serum-albumin and serum-globulin are present, though their proportions vary within wide limits, the quotient of the amount of serum-albumin divided by the amount of serum-globulin being sometimes as low as 0·6 and sometimes as high even as 39. The quotient is high in acute nephritis when blood is absent, though globulin is in excess when hæmoglobin is present; the quotient sinks as low as 0·6 when the disease becomes chronic, the alteration depending on the condition of the patient. Amyloid disease can not be distinguished from the ordinary forms of chronic nephritis by the high proportion of serum-globulin, as maintained by Senator; and functional albuminuria is not characterized by the high proportion of serum-globulin, as suggested by Maguire. The proportion of the proteids to one another varies much in the course of the day, serum-globulin being always highest during the night and reaching its lowest point after breakfast, the amount of proteids passed bearing a tolerably direct proportion to the amount of the proteids taken, though a milk diet increases the proportion of serum-albumin. Apparently, high arterial pressure favors the transudation of serum-albumin, while a low pressure increases the proportion of globulin transuded.

NEW TESTS FOR ALBUMIN.

The *Pharmaceutical Era* states that a new reagent to detect albumin, even in infinitesimal quantities, is said to exist in salicylsulphonic acid. This reagent is a body formed by the action of sulphuric acid on salicylic acid. It will affect as little as $\frac{1}{120}$ of a grain of albumin, making the urine turbid, but not affecting the other constituents, such as sugar, peptone, etc. In the *Johns Hopkins Hospital Bulletin* there is a report, by Dr. D. Meredith Reese, on trichloracetic acid as a test for albumin in urine. An editorial note in the *British Medical Journal* had called attention to this new test, which Boymond professes to have first brought into notice. This reagent precipitates albumin in cold solution, and is considered to rank among the most delicate tests. Under Dr. Reese's observation eighty-seven specimens of urine were examined. In twenty-five cases there was no reaction of any kind. In fourteen cases where there was no reaction in check-experiments the trichloracetic acid gave a precipitate. In eleven of these, granular, epithelial, and hyaline casts were found, and in three of these eleven cases the post-mortem showed distinct changes in the kidneys. In three cases where heat, acetic acid, and nitric acid gave no precipitate of albumin, a precipitate was obtained with picric and trichloracetic acids; and casts were found in these three instances. Trichloracetic acid is a delicate test, is prompt and easily applied, and gives no discoloration or colored zone.

CHRONIC INDURATION OF SUPERFICIAL VEINS.

According to the *Mercredi médical*, M. Duponchel has recently presented to the *Société médicale des hôpitaux* a patient suffering from a rare condition of the superficial veins. They were indurated and felt to the finger like atheromatous arteries. The condition was a chronic one, with subacute exacerbations now and then. The cephalic veins of both upper extremities and the left internal saphenous gave the sensation of a hard, resisting cord. A few days before, these same veins had felt like pipe-stems. Though rare, the trouble is of practical interest. It exists without varices or hæmorrhoids. Only once has the observer found cyanosis of the extremities. The hypothesis of chronic periphlebitis explains the venous induration; at the same time a morbid process similar to atheroma also suggests itself. When soldiers complain of vague pains without objective signs or painful points at intervals, such as characterize neuralgia, it is natural to suppose that the cases are simulated. Duponchel has frequently found an explanation of the alleged pain by a careful examination of the veins.

HYPNAL IN THE TREATMENT OF NEURALGIC INSOMNIA

Dr. Fraenkel reports, in *Nouveaux remèdes*, that he has prescribed hypnal in various cases at his clinic, and that sleep resulted as with chloral and with the characteristics of the sleep produced by the latter drug—that is, a calm and refreshing sleep, without nausea or disagreeable sensations on awakening—and that the painful symptoms improved as they improve after the administration of antipyrine. Hypnal, or monochloralantipyrine, is a chemically well-defined compound that is less soluble than either chloral or antipyrine; in the presence of a feeble alkali it is resolved into these substances, and this decomposition occurs in the blood or in the intestine. It has only a slight taste and odor, and is easily administered to children. It produces the hypnotic effect of chloral augmented by the analgesic action of antipyrine, and is especially valuable in insomnia caused by pain. It may be administered in capsules or powders, in doses of fifteen grains, to an adult, that may be repeated if necessary. For a child the dose is from a grain to ten grains.

FATAL POISONING WITH SALOL.

Dr. Hesselbach reports, in the *Fortschritte der Medicin*, the case of a young man suffering with rheumatism, who took by mistake two drachms of salol. Coma resulted, with great dryness of the tongue, anuria, and death on the second day. At the necropsy the kidneys were found to be soft, anæmic, and of a pale-yellow color; microscopically, the glomeruli were full of embryonic cells and leucocytes, the convoluted tubes were tumefied, and fatty degeneration had begun. The tubuli were filled with degenerated epithelium. There were no other lesions attributable to the drug. The toxic principle was the carbolic acid that is generated from salol in the system; and the author believes that it should be prescribed carefully, and the condition of the kidneys, as indicated by the urine, carefully watched.

THE CREMATION CONGRESS.

An International Congress on Cremation was opened at Berlin on August 4th. There were many foreign delegates present, and a resolution was passed expressing the hope that the governments that had hitherto opposed cremation would recognize the pernicious effects of inhumation and make cremation optional. Considering that the Roman Catholic Church has taken a position adverse to cremation, the acceptance of this proposition in Catholic countries is very doubtful.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 26, 1890:

DISEASES.	Week ending Aug. 19.		Week ending Aug. 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	40	12	37	11
Scarlet fever	18	3	14	3
Cerebro-spinal meningitis	2	0	0	0
Measles	104	13	79	12
Diphtheria	34	16	51	16

Government Measures against Hypnotism.—As an outcome of the expression of opinion at the Birmingham meeting of the British Medical Association a bill will be introduced at the next session of Parliament to restrict the public performances of hypnotic experiments which are now so much the fashion. There is no reason to doubt medical testimony to the effect that much injury is done to the health of the subjects of these public experiments.

Dr. Jonathan Adams Allen, of Chicago, died August 15th, at the age of sixty-five. He was identified with Rush Medical College for more than thirty years, having held the chair of theory and practice since 1859, and was president or dean for many years. He was one of the editors of the *Chicago Medical Journal* for several years. He wrote a book on life-insurance examinations which sold to the extent of thirty thousand copies. His contributions to medical literature were numerous, and his favorite subjects were nervous pathology, medical jurisprudence, mental capacity and alienation. He was for over twenty years the chief surgeon of a large system of railways in Illinois. As a teacher, he was eloquent, persuasive, and instructive, well prepared both by extensive reading and original research.

The American Association of Obstetricians and Gynæcologists will hold its next annual meeting in the hall of the College of Physicians, Philadelphia, on Tuesday, Wednesday, and Thursday, September 16th, 17th, and 18th. An invitation to attend the sessions is extended to all physicians who are interested.

The American Rhinological Association will hold its eighth annual meeting in Louisville, on the 6th, 7th, and 8th of October, under the presidency of Dr. A. G. Hobbs, of Atlanta.

Change of Address.—Dr. Gustav A. Pohl, to No. 96 Lemon Street, Buffalo, N. Y.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 3 to August 23, 1890:*

By direction of the Secretary of War, the ordinary leave of absence granted Kimball, James P., Major and Surgeon, in S. O. 152, July 1, 1890, from this office, is changed to leave of absence on surgeon's certificate of disability, with permission to leave the Division of the Missouri. Par. 7, S. O. 182, A. G. O., August 6, 1890.

Caldwell, Daniel G., Major and Surgeon, is, by direction of the Acting Secretary of War, granted leave of absence for one month and fifteen days, to take effect about August 15, 1890. Par. 1, S. O. 176, A. G. O., July 30, 1890, Washington, D. C.

Stephenson, William, Captain and Assistant Surgeon, now on duty at Columbus Barracks, Ohio, is, by direction of the Acting Secretary of War, assigned to temporary duty at Jefferson Barracks, Missouri, during the absence on leave of Major Daniel G. Caldwell, Surgeon, and will report accordingly. On the return to duty of Major Caldwell, Captain Stephenson will rejoin his proper station. Par. 2, S. O. 176, A. G. O., July 30, 1890, Washington, D. C.

Retirement.

Moore, John, Brigadier-General and Surgeon-General, August 16, 1890 (Act June 30, 1882). Headquarters of the Army, A. G. O., Washington, August 18, 1890.

Promotions.

Ives, Francis J., Assistant Surgeon, July 25, 1890. To be assistant surgeon with the rank of captain, after five years' service, in accordance with the act of June 23, 1874. Headquarters of the Army, A. G. O., Washington, August 11, 1890.

Kendall, William P., First Lieutenant and Assistant Surgeon, to be assistant surgeon with rank of captain, after five years' service, from August 12, 1890. Headquarters of the Army, A. G. O., Washington, August 18, 1890.

Reed, Walter, Captain and Assistant Surgeon, is, with the approval of the Acting Secretary of War, granted leave of absence for four months, to take effect about September 1, 1890. Par. 17, S. O. 192, A. G. O., Washington, D. C., August 18, 1890.

By direction of the Acting Secretary of War, a board of medical officers, to consist of Middleton, Joseph V. D., Major and Surgeon; Ewen, Clarence, Major and Surgeon; Hopkins, William E., Captain and Assistant Surgeon, will assemble at the U. S. Military Academy, West Point, N. Y., at 11 o'clock, a. m., August 27, 1890, or as soon thereafter as practicable, to examine into the physical qualifications of the candidates for admission to the Academy. Par 1, S. O. 192, Washington, D. C., A. G. O., August 18, 1890.

Mason, Charles F., First Lieutenant and Assistant Surgeon, is, by direction of the Acting Secretary of War, relieved from further temporary duty at Fort Logan, Colorado, and will report for duty at his proper station (Fort Washakie, Wyoming). Par. 3, S. O. 191, A. G. O., Washington, D. C., August 16, 1890.

By direction of the Acting Secretary of War, the retirement from active service this date, by operation of law, of Moore, John, Brigadier-General and Surgeon-General, under the provisions of the act of

Congress approved June 30, 1882, is announced. General Moore will repair to his home, Bloomington, Indiana. Par. 2, S. O. 191, A. G. O., Washington, D. C., August 16, 1890.

McCreery, George, Captain and Assistant Surgeon. The leave of absence for seven days, granted by Orders No. 84, Fort Warren, Massachusetts, August 13, 1890, is hereby extended fifteen days. S. O. 193, Headquarters Division of the Atlantic, Governor's Island, New York city, August 15, 1890.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 23, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Removal of Diseased Appendices.—Dr. L. A. Stimson detailed the histories of several cases of appendicitis in which he had recently operated, and presented the diseased organs removed.

The first case was that of a young man from Middletown, N. Y. This patient had suffered from four attacks within a year, the last one about six weeks before the operation. The history was clearly that of appendicitis, and the second and fourth attacks had not been quite so severe as the first and third. The usual incision was made and the appendix exposed. It was lying free in the abdominal cavity, its base being directed forward and in contact with the anterior abdominal wall, so that it presented in the wound. The apex of the organ, which he exhibited, was adherent to the omentum and slightly so to the cæcum. It was dissected out from the mesentery, ligated with catgut close to its origin, and removed. The case was a typical one. The wound had healed almost without suppuration within three weeks, and the patient had only remained in the city in order that he might be presented to the society. Dr. Ferguson, pathologist to the New York Hospital, had examined the appendix after removal, and had found that its mucous membrane was entirely destroyed by catarrhal inflammatory process. There was no pus or foreign body within its cavity. The muscular coat of the organ was thickened and infiltrated with round cells.

The second case was that of a patient, sixteen years old, whom the records of the hospital described as having been three years previously under treatment for general peritonitis due to trauma. Since that time the lad had suffered from many attacks of pain in the right iliac fossa. When seen on admission to the hospital, about two weeks before the meeting, he had come complaining of a pain in his abdomen of ever-increasing severity. There was a temperature of 102° F., and there was marked tenderness in the right iliac region. The operation revealed the appendix as occupying a similar position to that in the previous case. The distal end was directed forward and was in contact with the anterior abdominal wall. The cæcum was above it, while a small pocket was found formed by the adhesion of a knot of small intestines to the cæcum and the abdominal parietes, and within this the appendix lay. This made the dissection quite difficult, and there was free bleeding. After dissecting out about two inches of the appendix and ligating it with catgut it was cut away, and there escaped from its cavity about a drachm of turbid, non-purulent liquid. The interior of the appendix was deeply congested and seemed to be in a sloughing condition. At the apex the wall of the organ was reduced to a thin membrane and seemed to be on the point of rupturing. A slight amount of turbid fluid was found free in the abdominal cavity. This patient had made a rapid and uneventful recovery.

The third specimen presented was that of an appendix taken post mortem from a man who had been brought into the hospital in a moribund condition. The patient was a Norwegian, thirty years of age. He gave a history of previous attacks of peritonitis. His abdomen was distended, his temperature 104°, and his general appearance that of a man about to die. There had been no movement of the bowels since this last attack came on, nearly a week before. The case was clearly one in which operative interference would be useless; indeed, the speaker had some doubt as to the real character of the trouble. An artificial anus was made with the view of relieving the distention. The man died, and upon removing the appendix it was found to present an appearance similar to that in the other two cases. There was no foreign body within it, but its mucous membrane was found to be in a condition of catarrhal inflammation. The abdominal viscera were in a state of general peritonitis without exudation.

The speaker narrated as a fourth case that of a physician of this city who had suffered five previous attacks within three years, each of which was said to have been cut short by a dose of castor-oil. The last attack had commenced on Thursday, three weeks before. The speaker had seen the case first on Friday, at which time the patient had described himself as getting well fast. On the following Sunday, however, he had come to the New York Hospital and sent for the speaker, stating that he had felt something give way in the abdomen, and this was followed by great rectal tenesmus. Introduction of the finger revealed a soft mass depressing the anterior rectal wall behind the bladder. There was tenderness in the right iliac fossa, together with some resistance on deep pressure. Aspiration of the mass pressing upon the rectum with an exploring needle revealed the presence of fœtid pus. The sphincter was then stretched and the abscess opened through the rectum. This was found to be in the peritoneal cavity and behind the bladder, the latter fact being ascertained with a sound in the bladder. Evacuation of the abscess contents was followed by a rapid fall in the patient's temperature and such general improvement that in a few days he was able to leave the hospital.

The speaker said he had presented these four cases because he thought they all represented instances of catarrhal inflammation of the appendix with non-perforation, and had all been of the recurrent type. In one case it had been demonstrated that non-perforative appendicitis was capable of destroying life, while another had shown that an abscess of considerable size might form and rupture in such a way that its contents would determine to the lower part of the abdominal cavity. The conditions in each case had been such that the patients might well have died. He thought that when, on the one hand, one considered the excellent results that had thus far followed the removal of the diseased appendices through the abdominal cavity, and, on the other, the very dangerous character of the processes to which these inflammations could give rise, one was justified in advocating early operative interference.

Suprapubic Lithotomy.—Dr. A. J. McCosh presented a patient from whose bladder he had removed nine calculi weighing in all four hundred and sixty grains. The wound in the bladder had been about an inch in length and through this the stones had been removed. This opening had then been sewed up, except a slit left for a drainage-tube. A perineal opening was then made, and after some difficulty, on account of an enlarged prostate, a tube was introduced into the bladder for perineal drainage. Some trouble had been caused by occlusion of this latter tube by mucus during the first few days, and during this time the urine had come entirely through the suprapubic opening. A large perineal tube was introduced and perfect drainage thereby established. Thirteen days after the operation the suprapubic wound had closed. The perineal wound was now almost healed, and most of the urine now came through the penis. The speaker had reported the case to emphasize his appreciation of the advantages of the perineal opening. It had been very noticeable that whenever the drainage through the perineal opening was insufficient and the urine was forced to find outlet through the suprapubic incision, the patient's general condition had changed for the worse. His temperature went up a degree or more, his pulse increased in frequency, and his appetite failed. When the perineal drainage was re-established, the man became himself again. The speaker was much impressed with the result, and in operating upon other old patients, this one being seventy-two years of age, he should certainly make the perineal opening, while in younger ones he would also favor this opening and the suturing of the bladder wound as recently advocated before the society by Dr. McBurney.

Recurrent Appendicitis.—Dr. J. A. Wyeth presented a patient, sixteen years old, who had been sent to him by Dr. Ground, with the following history: The first trouble had begun in June, 1887, when he had vomiting and felt severe pain in the right iliac fossa. Previous to this attack his bowels had been regular. The attack lasted very nearly two days and was attended with no fever. About two months later he had his second attack, when he experienced symptoms similar to those present in the first one. The third attack occurred in January, 1888, and was quite severe. The greatest amount of pain was midway between the umbilicus and the right anterior superior spinous process. The temperature in this third attack ran as high as 103° F., and a tumor was found in the right iliac fossa which was quite firm. This attack had lasted about two weeks. In May, 1888, he had his fourth attack, which was the severest of all, the vomiting and abdominal pains being very distressing. About the fifth day a tumor was found in the right inguinal fossa. Peritonitis had then developed and extended over a considerable portion of the abdomen. There was marked tympanites and the temperature ran as high as 104°. In this attack he failed rapidly and had chills, and about the twelfth day the tumor was aspirated and some pus was obtained. This fourth attack lasted four weeks. Up to the time of his entering the Polyclinic Hospital, in February, 1890, he had had sixteen attacks, which had recurred at intervals of a month or two and were similar to those already described. During the attacks he was constipated, but in the intervals his bowels were regular and his appetite was good. Vomiting was present in almost every attack and a tumor of pronounced character was to be made out in about half of the attacks, but when it was absent a marked sense of resistance could be noticed.

On March 11th, while in the hospital being prepared for an operation, he had another attack, which lasted about a week and caused the operation to be postponed.

On March 27th the boy was operated on by the speaker. Considerable difficulty was experienced in finding the appendix, on account of extensive adhesions. At last a very small, firm appendix was found, about two inches in length and of about the diameter of the little finger. It was adherent to the peritonæum and was bound down beneath and parallel with the iliac artery. It was tied off and found to contain no foreign body. Although the boy had had sixteen attacks of localized peritonitis, there did not seem to be any active inflammation present, but the appearance was that of a catarrhal condition. The speaker was by no means certain that the appendix had been alone responsible for the trouble. The patient had made an uninterrupted recovery and was now quite restored to a condition of normal good health.

Dr. Robert Abbe asked if there had been any relief in Dr. Stimson's case where an opening had been made to lessen the pain of pressure by gas. He understood that the gas liberated was only for a distance of twelve inches from the point of the pain.

Dr. Stimson replied that there had been an immediate and abundant discharge of fæces through the opening.

Dr. Wyeth mentioned a case in which the patient was in a moribund condition from obstruction. To relieve the distention he had opened the abdominal cavity, taken the first loop of intestine that presented, and cut a hole in it. There had been a copious discharge of gas, the patient had begun to breathe, the obstruction was removed, and the woman had recovered.

The President mentioned a case in which laparotomy was done for a wound of a large artery in the abdominal cavity, and in which there was paresis of the intestinal canal. In the search for the vessel almost all the intestines were turned out of the abdominal cavity. They were bound and bunched together by the exudations of a former peritonitis and dilated to their fullest extent. He had found it necessary to make four or five short incisions at various points before he could reduce them. Of course, these incisions were sutured when the gases had escaped.

Dr. J. D. Bryant said that, although the fact appeared to be well established that the escape of gas in these cases was somewhat limited, he would add two more cases in support of that fact. In these cases a small aspirating needle was passed obliquely through the intestinal wall. Only a limited portion of the intestine was emptied of gas, and that mainly by the influence of external pressure on the intestine at either side of the point of puncture. In one of these cases great difficulty was experienced in closing the puncture properly with sutures. The speaker's experience thus far led him to consider intestinal puncture under these circumstances as of doubtful expediency from all standpoints.

Dr. Wyeth, in reply to a question by Dr. Murray, said he had not operated in his case of appendicitis during the acute stage of the sixteenth attack, as the boy had already recovered from all the previous ones, and he thought it advisable under the circumstances to let him alone rather than risk interference in the acute stage.

Paranephric Cysts.—Dr. R. Abbe read a paper with this title. (See page 147.)

Dr. Stimson referred to a case which seemed analogous to those of Dr. Abbe's. The patient, a man, had a large tumor apparently connected with the left kidney. This was reduced by multiple aspirations, three in all being made in the course of six weeks. Since that time there had been no return of the fluid.

Ovarian Fibroid and Tubal Pregnancy.—Dr. McCosh narrated the case of a woman admitted into the Presbyterian Hospital with the following history: She had always menstruated irregularly, both profusely and painfully, and for many years her periods had been delayed or were too frequent, interchangeably. She had been married two years and had never been pregnant to her knowledge. Five months ago her periods had ceased altogether and had not recurred. For fifteen years she had had abdominal pain and tenderness, with bearing-down sensations, especially at her menstrual epochs. Seven years ago she had noticed a swelling in the right side, appearing after severe exertion. It had seemed larger during menstruation. Five months ago a swelling on the left side appeared which grew rapidly, and menstruation had ceased. According to the patient's observations, there were no breast changes. She had lost flesh and strength.

Examination revealed a solid tumor growing out of the pelvis and occupying the middle of the abdomen as high as the umbilicus. On the left side, at a point on a level with and above the umbilicus, there was felt a fluctuating tumor adherent to or forming a part of the mass just mentioned. The diagnosis was made of uterine fibroid complicated by a cyst. On opening the abdomen, the body of the uterus was found occupied by a fibromyoma somewhat larger than an adult head. Springing from near its upper border on the left side was a thin-walled cyst almost as large as the solid tumor, to which it was closely adherent. At the time the speaker thought that it might be a tubal gestation-sac. Even subsequently, on opening the sac, which contained a four-and-a-half-months fœtus, he could not tell whether it was a Falloppian tube or the left cornu of the uterus. On account of a firm adhesion of the sigmoid flexure to the upper part of the cervix uteri, it was deemed best not to remove the entire uterus, and hence the pedicle was fastened in the abdominal wound. The patient made an uninterrupted recovery. An examination of the tumor showed that the entire body of the uterus was occupied by a fibromyoma, and after shrinkage of the fœtal sac it was evident that it was the dilated left uterine cornu. The uterine canal could not be traced higher than the internal os, and careful dissection failed to find any communication between this canal and the sac in which the fœtus lay. It was evident that delivery *per vias naturales* would have been impossible, and that, had the patient been allowed to go to term without rupture taking place, a Porro operation must have resulted.

The pathologist's description of the mass removed was as follows: A nearly spherical mass about 5 inches in diameter, very firm and resembling a fibroid; on section, for the most part white, over a considerable portion a grayish discoloration. About one third of its surface is covered with peritonæum. Attached to this tumor, over an area about 4 inches in diameter, is a second mass, hollow, with a cavity about 3 inches in diameter, with a smooth lining, pinkish gray, and showing some yellowish patches resembling atheromatous tissue; walls about 1 inch thick, resembling loose uterine tissue. It is covered externally by peritonæum, has a pedunculated fibroid attached to it 1 inch in diameter, also the left tube and ovary and the beginning of the right tube. Inside this cavity, which has been opened, all along one side is a fœtus 4¾ inches long, from vertex to tuber ischii, with its membranes, cord, and placenta. The left ovary shows a corpus luteum ½ inch in its longest diameter. The ovary is 1¾ inch long, somewhat fibrous, and contains several minute cysts. The whole tumor, without the fœtus, weighs 5 pounds.

Osteo-chondromata.—Dr. A. G. Gerster presented two specimens of this condition taken from two patients in whom the clinical histories were for the most part similar. The first specimen had been removed from the right popliteal space of a woman between thirty and forty years of age, where it had existed for many years as a painless tumor, causing no inconvenience except that it had impeded the function of the joint. Six weeks before she had come under the speaker's notice, sharp, shooting pains had commenced along the course of the popliteal nerve. The tumor was apparently attached to the lower end of the femur near the epiphyseal line, and projected backward and inward. It had seemed to be pedunculated. The vessels and nerves were displaced outward. He had told the patient that he could not be positive as to the exact nature of the growth. His diagnosis had been either osteo-chondroma or sarcoma of the lower end of the epiphysis of the femur. On cutting down, he had found the growth invested by a membrane resembling periosteum. Keeping well out of the way of the vessels and nerves, he was able to expose the pedicle of the growth and to remove the mass easily with a chisel and mallet. The patient had made an uneventful recovery.

The second and larger specimen had been removed from a young man twenty-one years of age. The general details of the case were in effect similar to those of the previous case. The speaker would remind the meeting of the ease with which this operation could now be undertaken as compared with fourteen years ago. Then a small incision was made and a chain-saw used. Now, by ample incision and the use of the chisel, there was no difficulty and no danger of lacerating the surrounding tissues.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION IN OBSTETRICS.

Meeting of May 23, 1890.

The President, Mr. S. R. Mason, in the Chair.

Fibromyoma of the Ovary.—Dr. Bagot showed a fibromyoma of the ovary, and stated that the tumor was of great interest and importance from a pathological point of view, because there seemed to exist a great difference of opinion as to the nature of that rare class of tumor—namely, the solid nonmalignant tumors of the ovary. Some observers stated that they were fibromata, others that they were chiefly fibromyomata. Spencer Wells had met with but six examples, which he considered to be fibromata. Dr. Alban Doran, however, in his book on *Tumors of the Ovary, Falloppian Tube, and Broad Ligament*, published in 1884, stated that he had examined one of these tumors, which had been presented by Spencer Wells to the museum of the Royal College of Surgeons, London, and that it was a leiomyoma, containing but little true connective tissue. All the solid tumors that he himself had seen, removed at operations, were either carcinomata or sarcomata. Olshausen had described them as consisting of connective tissue, sometimes with a few muscular fibers; but the latter were always scanty. Martin agreed with him. Winkel stated that they were chiefly connective-tissue growths. Waldeyer found no trace of smooth muscular tissue. Leopold and Wyder's observations coincided with Waldeyer's, but Klebs and Tücke found muscular tissue, as did also Hartmann and Terrier.

Dr. Bagot's case was as follows: J. D., aged forty-four years, married twenty years, had given birth to eight children. Eight years had elapsed since her last pregnancy. In December, 1889, she came to the Rotunda Hospital to have a pessary changed, as she had been wearing it for some time. The following conditions were found on examination: Perineal laceration of the first degree; the external os patulous; the cervix fissured; slight ectropion; the uterus normal in size; the fundus retroverted toward the left; the left ovary normal. There was a tumor of the right ovary, somewhat larger than a walnut. Nothing else abnormal could be made out. The woman had been in bad health and was complaining of various nervous symptoms, but, as none of these could be distinctly traced to the ovary, and as it did not seem to be injuring her in any way, it was not interfered with. The patient had been under Dr. Macan's care since 1884, when the same diagnosis and prognosis had evidently been adopted. In March, 1890, however, the tumor was very much larger, and, as it grew so rapidly, it was thought advisable to remove it. Accordingly, on March 27 1890, the speaker removed it by an abdominal section. The patient made a perfect recovery, and all her former symptoms disappeared.

Dr. Earl had kindly made a microscopical examination o the tumor and found the following: The tumor consisted mainly of unstriped muscle, arranged in bundles. Adjoining bundle ran at right angles to one another. Traversing this tissue were numerous tracts of fibrous connective tissue, rather dense. They presented a somewhat insular appearance as seen in the sections. Small blood-vessels could be seen here and there, and there appeared to be very thick external coats to these vessels.

Observations on a New Speculum Illuminator.—Dr. T. More Madden said that the importance of sufficient illumination as an essential element in the diagnosis and treatment of the various morbid conditions of the vaginal portion of the uterus or of the vagina in which the speculum was resorted to was obvious. And yet to the neglect of due attention to this consideration must be largely ascribed some of the erroneous views and practices which for many years had retarded the progress of gynæcology. This point he illustrated by a reference to the very opposite opinions at different periods held by authorities of equal accuracy and of equal experience with regard to the aspect and character of the most common forms of disease discernible through the vaginal speculum. Had, however, those who thus differed as to the nature and treatment of the pathological conditions presented to visual examination by the speculum possessed instruments such as those now available for this purpose, and enjoyed the advantage of the methods of illumination by which, when necessary, the best of all lights—namely, that of direct sunlight—might be replaced, the heated controversies and fallacious practices of former days might probably have been avoided. Much as had been done in this way, there still remained, however, some room for further improvement, as even yet, among the every-day troubles of gynæcological work, not the least frequent or least annoying of its kind was the difficulty occasionally experienced in making a satisfactory visual examination of the vagina or vaginal portion of the uterus in many cases where it was required for diagnostic or therapeutic purposes. In regions wherein sunshine was so exceptional as was unfortunately the case under the leaden skies and murky atmosphere of the British Isles, this difficulty frequently presented itself even in the physician's best-arranged consulting room, where the couch was most advantageously placed with reference to light. And, *a fortiori*, it occurred still more commonly in the patient's chamber, where the bed was often so situated as to preclude full access of natural light into the speculum. And, in his opinion, the deficiency was not supplied by any of the electric lamps which, so far at least, he had himself employed. These, he had found, were apt to fail at the moment their assistance was needed, as, owing to some one or other of the defects, either in battery, connections, or lamp, that were of such frequent occurrence in electrical apparatus, on pressing the button, instead of the brilliant flood of electric light expected, the result obtained might be either *nil* or else merely the dull-red glow of the incandescent carbon filament. On the other hand, if we contented ourselves with the more reliable if less elegant "bit of candle end," still recommended by some authorities, the necessity for holding it so as to throw some light into the speculum must interfere with any manipulation required by the case. Therefore the speaker desired to suggest to other practitioners who were likely to meet with the difficulty he had often thus encountered, a trial of the little contrivance now exhibited, which he had found serviceable under such circumstances. This consisted of a very portable, many-jointed illuminator, capable of rotation in every possible direction, which could be instantly and securely affixed to any form of speculum, so as not to be in the surgeon's way, while affording sufficient and reliable light for all examinations or operations in the vaginal passage. This instrument, he added, had been very carefully made, in accordance with his directions, by Messrs. Lynch & Co., Aldersgate Street, London.

Dr. McVeigh was of opinion that the illuminator would prove of the greatest use, especially in making examinations in the evening.

Dr. Macan remarked that probably every gynæcologist had his own plan for getting through his work in the dark. For his own part, he did not find any difficulty in working with an ordinary lamp and reflector; and he did not know that the instrument now exhibited would prove much better. He had also used the ordinary electric light; but the objection to it was that the operator had to use one hand in holding it, while he manipulated with the other. He had not found any difficulty in working with an ordinary gas lamp. He was sure that the present instrument was a very capable one, but he did not think it a necessity.

Dr. Byrne said he considered Dr. Madden's invention very ingenious and simple.

Dr. Bagot said the present instrument was liable to the same fault that existed in the case of others also, namely, that the light was between the operator and his work. For the purpose of an operation he thought that a lamp or electric light, with a reflector on the forehead, would be more effectual and less in the way.

Dr. Madden said he had found this instrument useful not only in cases in the hospital with which he was connected, but still more so in private practice, inasmuch as some of the electric and other lights relied on for utero-vaginal examinations were very troublesome to carry about, and were apt to go out at a moment's notice.

SECTION IN PATHOLOGY.

Meeting of May 30, 1890.

The President, Dr. E. H. Bennett, in the Chair.

Porencephaly.—Dr. Conolly Norman read a paper on porencephaly. He briefly traced the history of this affection in medical literature from the days of Heschl, who first described it under this name, to Andry, who had recently written a valuable memoir. Dr. Norman described a case which had occurred in his own practice. The patient was not an idiot. The history was very defective, but he was known to have been a criminal. When under Dr. Norman's care he suffered from paranoia, with persecutory delusions. He exhibited partial right hemiplegia without aphasia. He died of phthisis. The brain showed a large opening on the left side leading directly into the lateral ventricle, the insula, the operculum, and the internal capsule being absent. The optic thalamus and optic tract on the left side were diminutive. Having described the conditions found in some detail, and exhibited some beautiful photographs of the brain made by Professor Fraser, Dr. Norman dwelt upon the various theories of the causation of porencephaly. He inclined to believe that a case like this was probably a condition of arrested development, and regarded the membrane which closed the opening in these cases as the altered wall of the secondary anterior cerebral vesicle which had not developed nervous matter. The most interesting points were: 1. The ætiology. 2. How the functions of the internal capsule were even imperfectly performed in the absence of that structure.

Dr. C. J. Nixon remarked that Dr. Norman had discussed porencephaly as if it invariably had a congenital origin; but it was equally true that porencephaly was acquired; for instance, from injuries several months after birth, or from acute, exhausting diarrhœa, or from a bad form of measles or scarlatina, resulting in infantile hemiplegia or in total paralysis.

Dr. T. Myles said the photograph shown by Dr. Norman seemed to be one of the brain of an orang-outang or of a South African bushman rather than of an ordinary human brain; for the Sylvian fissure, instead of being horizontal, was nearly vertical; the fissure of Rolando was invisible; the parieto-occipital fissure extended to the temporo-sphenoidal bone, and the tip of that bone, instead of reaching out to the frontal lobe, was undeveloped, extending only as far as the Sylvian fissure.

Dr. Norman said the conditions described by Dr. Myles were attributable to the fact that the brain had been allowed to lie a little crooked and was badly hardened; but the fissure of Rolando was specially marked and recognizable, while the temporo-sphenoidal lobe had got squeezed up. There was no trace of destruction of tissue or of any lesion from thrombosis or other cause. The chief problem was, from what had taken place to the fibers of the internal capsule, how any movement remained in the limbs, which were entirely cut off from what were regarded as the motor centers of the cerebral cortex.

Dr. Nixon asked if there was volitional movement in the limbs, notwithstanding the destruction or absence of the internal capsule.

Dr. Norman said there was volitional movement, limited in extent and impaired, but undoubtedly existent.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Throat and Nose and their Diseases. With One Hundred and Twenty Illustrations in Color, and Two Hundred and Thirty-five Engravings, designed and executed by the Author. By Lennox Browne, F. R. C. S. E., Senior Surgeon to the Central London Throat and Ear Hospital, etc. Third Edition, revised and enlarged. Philadelphia: Lea Brothers & Co., 1890. Pp. xxii-716. [Price, $6.50.]

Hystéropexie abdominale antérieure et opérations sus-pubiennes dans les rétrodéviations de l'utérus. Par Marcel Baudouin. Avec vingt-deux figures dans le texte. Paris: Lecrosnier et Babé, 1890. Pp. x–414. [Publications du *Progrès médical.*]

Ruptures des tendons sus et sousrotuliens. Traitement par la suture. Par Hervé, Docteur en médecine de la Faculté de Paris. Paris: Henri Jouve, 1890. Pp. 5 to 88.

Nine Months' Work in Abdominal Surgery. By Clinton Cushing, M. D. [Reprinted from the *Pacific Medical Journal.*]

Electricity in Gynæcology; the Galvanic Apparatus. By C. N. Smith, M. D., Toledo, Ohio. [Reprinted from the *Toledo Medical and Surgical Reporter.*]

On the Toxic, Pathogenetic, and Therapeutic Qualities of the Cacteæ. By Edwin M. Hale, M. D., Chicago, Ill. [Reprinted from the *North American Journal of Homœopathy.*]

The Use of Commercial Milk Sugar in Infant-Feeding. By E. F. Brush, M. D., Mount Vernon, N. Y. [Reprinted from the *Journal of the American Medical Association.*

Abortion and its Effects. By Joseph Taber Johnson, A. M., M. D., Washington, D. C. [Reprinted from the *Maryland Medical Journal.*]

What is the Present Medico-legal Status of the Abdominal Surgeon? By William Warren Potter, M. D., Buffalo, N. Y. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

The Seborrhœic Wart, Verruca seborrhoica, Verruca senilis, Verruca plana seniorum, Keratosis pigmentosa. By S. Pollitzer, A. M., M. D., New York. [Reprinted from the *British Journal of Dermatology.*]

Functional Nervous Diseases of Reflex Origin. By Albert Rufus Baker, M. D., Cleveland, Ohio. [Reprinted from the *Journal of the American Medical Association.*]

The New Treatment of Peritonitis. By Emory Lanphear, M. D., Kansas City, Mo. [Reprinted from the *Kansas City Medical Index.*]

Reformation in the Practice of Medicine by the Dosimetric Method of Practice; or, the Method of Small Doses of the Active Principles of Plants, mathematically measured and scientifically adapted to the Varied Abnormal Conditions; with Biographical Sketch of Dr. Ad. Burggrave. By J. E. MacNeill, M. D., Denver, Col. [Revised and reprinted from the *Dosimetric Medical Review.*]

Dosimetry in Colorado. By Dr. J. E. MacNeill, Denver, Col.

Report on Alcohol and Longevity. By E. Macdowel Cosgrave, M. D., Ch. M., Univ. Dubl. [Reprinted from the *Dublin Journal of Medical Science.*]

The Anniversary Address before the Medical Society of the State of New York. By Daniel Lewis, A. M., M. D., New York. [Reprinted from the *Transactions.*]

The Limits of Vaginal Hysterectomy for Cancer of the Uterus. By Henry C. Coe, M. D., New York. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

The Use and Abuse of Soap and Water. By B. Merrill Ricketts, M. D. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

External Surgery of the Nose. By B. Merrill Ricketts, M. D., Cincinnati, Ohio. [Reprinted from the *Journal of the American Medical Association.*]

Cholecystotomy. By Edward Ricketts, M. D., of Cincinnati, Ohio. [Reprinted from the *Pittsburgh Medical Review.*]

Five Cases of Vaginal Hysterectomy for Malignant Disease of the Uterus. All recovered. By W. F. McNutt, M. D., etc. [Reprinted from the *Transactions of the Medical Society of the State of California.*]

Varicocele. By Thomas W. Kay, M. D., Scranton, Pa. [Reprinted from the *Cleveland Medical Gazette.*]

A New Operation for Prolapsus of the Anterior Vaginal Wall. By Andrew F. Currier, M. D., New York. [Reprinted from the *Annals of Gynæcology and Pædiatry.*]

Scheme of the Antiseptic Method of Wound Treatment. By Dr. Albert Hoffa, Privat Docent of Surgery in the University of Würzburg. Translated from the German, with Additions, by special Permission of the Author, by Aug. Schachner, M. D., Ph. G., Louisville, Ky.

Ueber die Natur der von Zander im embryonalen Nagel gefundenen Körnerzellen. Von S. Pollitzer, A. M., M. D. [Sonder-Abdruck aus *Monatshefte für praktische Dermatologie.*]

Die Resultate der aseptischen Laparotomien. Von Heinrich Fritsch. [Sonder-Abdruck aus dem *Centralblatt für Gynäkologie.*]

Due casi di paralisi motoria della laringe. Pel Dott. A. Damieno. [Estratto dalle *Gazzetta delle Cliniche.*]

Tenth Annual Report of the State Board of Health of New York. Transmitted to the Legislature, February 20, 1890.

Twenty-ninth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati for the Fiscal Year ending December 31, 1889.

New Inventions, etc.

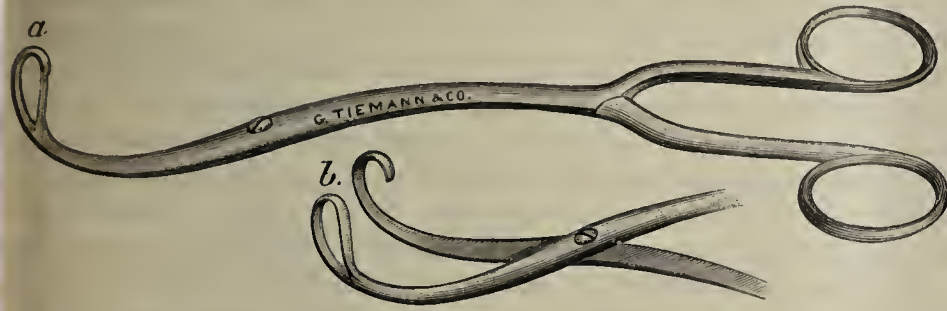
NEW NASO-PHARYNGEAL SCISSORS.

By F. C. Raynor, M. D.,

ASSISTANT SURGEON TO SKIN AND THROAT DEPARTMENT, BROOKLYN EYE AND EAR HOSPITAL.

The instrument which is illustrated herewith was designed for the removal of adenoid vegetations from the vault of the pharynx by substituting a clean cut for the older and more common methods of crushing, scraping, and tearing, and, as it has proved so satisfactory in my hands and in those of others to whom I have submitted it for trial, I venture to bring it before the profession. It is believed to be the only instrument for this purpose working on scissors principle, all other cutting instruments with which I am familiar being variously formed punches. Its shape can be well appreciated by referring to the cuts, *a* representing the instrument closed, *b* open for use. Its form in general resembles the letter *f*, the female blade terminating in a rounded point, the male blade being prolonged to make a fenestra for bringing away the portion excised. In size it corresponds closely with

Hooper's forceps, and is therefore adapted for use in small children As the cutting surface extends from the joint to the tip of the female blade, it may be employed for removing hypertrophied follicles from the posterior pharyngeal wall, trimming ragged tonsils, etc. The instrument, being small and delicately made, should only be used in operating on soft tissues. Both Dr. Sherwell and myself have operated without general or local anæsthesia, and the pain produced was very slight. The instrument was made for me by George Tiemann & Co.



169 State Street.

Miscellany.

The American Orthopædic Association will hold its fourth annual neeting at the College of Physicians, Philadelphia, on Tuesday, Wednes-lay, and Thursday, September 16th, 17th, and 18th, under the presi-lency of Dr. DeForest Willard, of Philadelphia. The programme in-ludes the following papers: Spinal Distortions and their Treatment by he Straightened Leather Jacket, by Dr. Bernard Bartow, of Buffalo; Treatment of Deformities of Spastic Paralysis, by Dr. E. H. Bradford, of Boston; Tenotomy for Relief of Deformity in Spastic Paralysis, by Dr. Arthur J. Gillette, of St. Paul; Amputation as an Orthopædic Meas-ure, by Dr. Ap Morgan Vance, of Louisville; A Ready Method of Coun-er-traction of the Knee, by Dr. Henry Ling Taylor, of New York; Treatment of Infantile Club-foot preliminary to Operation, by Dr. F. H. Milliken, of New York; Paralytic Club-foot, by Dr. W. R. Townsend, of New York; Ten Years' Experience in the Management of Knee-joint Disease, by Dr. V. P. Gibney, of New York; The Inefficiency of Me-chanical Treatment in Spasmodic Wryneck, with a Report of Three Cases, by Dr. G. W. Ryan, of Cincinnati; Sacro-iliac Disease, by Dr. Benjamin Lee, of Philadelphia; Instantaneous Photograph, illustrating he Gait of a Child from whom both Hips had been removed, by Dr. H. M. Sherman, of San Francisco; a discussion on the subject of Rotary Lateral Curvature of the Spine, in which the following papers will be ead: The Nervous and Muscular Elements in the Causation of Idio-pathic Curvature, by Dr. Benjamin Lee; the Muscular Element in the Etiology, by Dr. Charles L. Scudder; Ætiology, by Dr. R. W. Lovett; Mechanism of Rotation, by Dr. A. B. Judson; the Mechanical Theory, by Dr. O. H. Allis; Causes, by Dr. M. T. Bissel; Pathogeny, by Dr. Newton M. Shaffer; Treatment especially Applicable to Poor and Dis-pensary Patients, by Dr. V. P. Gibney, and papers on Treatment by Dr. E. H. Bradford, Dr. B. E. McKenzie, and Dr. Henry Ling Taylor; The Significance and Value of Involuntary Muscular Protection and the Limp f the First Apparent Stage of Hip Disease, by Dr. Newton M. Shaffer; Treatment of Hip Disease, by Dr. B. E. McKenzie, of Toronto; A Re-port of Sixty-two Cases of Hip Disease observed in the Practice of Hugh Owen Thomas, by Dr. John Ridlon, of New York; Diseases of the Eye ssociated with Spinal Caries, by Dr. James K. Young, of Philadelphia; Posterior Rhachitic Curvature of the Spine, by Dr. Samuel Ketch, of New York; Lateral Deviation of the Spinal Column in Pott's Disease, by Dr. R. W. Lovett, of Boston; Relief of Paraplegia, by Dr. A. J. Steele, of St. Louis; Prognosis of Pressure Paralysis, by Dr. T. Halsted Myers, of New York; Do Orthopædic Surgeons operate as frequently s they should? by Dr. J. E. Moore, of Minneapolis; Joint Diseases, y Dr. John Ridlon, of New York; and papers by Dr. T. G. Moton, Dr. Roswell Park, Dr. R. H. Sayre, and Dr. H. A. Wilson.

Sulphurous Disinfection.—Dr. Henry B. Baker, Secretary of the Michigan State Board of Health, has addressed a letter to Dr. E. B. Frazer, Secretary of the State Board of Health of Delaware, of which the following is a copy:

> Dear Doctor: Your letter of August 18th, acknowledging the receipt of a copy of my letter to Dr. Duffield (giving results of experience of health officers in Michigan, and an account of experiments by Pasteur, Roux, Dujardin-Beaumetz, and others relative to sulphurous disinfection), is before me. You ask me for further opinion, and refer to the *Report of the Maine State Board of Health* for 1889, page 251, and Dr. T. Mitchell Prudden's estimate of the want of value of sulphurous disinfection.*

There are at least two valid objections to the acceptance of Dr. Prudden's conclusions to which you refer: 1. His experiments dealt with a micro-organism which seems to be different from the one most generally accepted as the probable cause of diphtheria. Therefore he may or may not have been dealing with a micro-organism causing diphtheria. 2. The quantity of sulphur burned, the strength of the sulphurous-acid fumes which he employed, is not stated. It having been proved by actual experience with disease, and by other laboratory experimenters (Pasteur, Roux, Dujardin-Beaumetz, Vallin, Legouest, Polli, Pettenkofer, Dougall, Fatio, Pietra Santa), that sulphurous-acid gas is not always a disinfectant when employed in small proportions, and that it is a disinfectant when employed in large proportions, such as result from the burning of three pounds of sulphur to each thousand cubic feet of air-space, no different conclusion should be reached from Dr. Prudden's experiments as published.†

You mention that Dr. W. H. Welch, of Baltimore, "enters his protest against" disinfection by sulphurous-acid gas. I respectfully submit that entering a protest should count for very little in science as against results of actual practical experience in the restriction of diphtheria; it should not even take rank with definite statements of results of laboratory experiments.

Laboratory experiments are very valuable, but they need to be repeated, by the same observer and by other observers, in order to eliminate errors due to accidental and incidental conditions.

It is not easy to make laboratory experiments which shall conform to or correctly represent average conditions in actual outbreaks of disease. That is probably one reason for the discrepancies in laboratory experiments, and for the disagreement of some laboratory experiments with practical experience with disease. One reason for this last disagreement may be that micro-organisms which, after subjection to a disinfectant, may yet have sufficient vitality to reproduce in a laboratory where the most favorable conditions are supplied, could not possibly do so in the human throat, or elsewhere in the human body, because of the well-known power of the fluids of the body to destroy micro-organisms, as proved by Dr. Prudden's and other laboratory experiments following, but not confirming, Metschnikoff's doctrine of the phagocytes.

Progress would be easier, more rapid, and the backward and forward movements less frequent, if experimenters in laboratories would be more careful in stating the details of their work.

The interpretation of the results of laboratory experiments and the determination of the bearing which they should have upon practical affairs is an extremely difficult work, and one in which there is very great liability to error.

Practical health officers need to employ a gaseous disinfectant that shall at once reach all surfaces, ledges, cracks, drawers, and receptacles of dust wherever it may be in a room, that shall permeate all articles sufficiently permeable to admit disease-causing micro-organisms, that will not necessitate too much labor in the removal of furniture or other articles, and that shall have power to destroy or sufficiently weaken the vitality of the "germs" of such diseases as diphtheria and scarlet fever, and occasionally small-pox, as they are usually distributed in the sick-room, and that shall not destroy family portraits and similar articles. Only two such disinfectants are prominently before us for choice—chlorine and sulphurous-acid gas. Of these two, sulphurous-acid gas is made, in proper quantity, with more certainty and less trouble than is chlorine gas; and at present I regard the weight of evidence in its favor as equal to that relative to chlorine gas, concerning which not so much evidence has been published. Practical experience in Michigan proves that by isolation of first cases of diphtheria, and disinfection of premises after death or recovery therefrom by fumes of burning sulphur, etc., four fifths of the cases and deaths which would otherwise occur from that disease are prevented. If there is any other method of disinfection or any other procedure that can be shown to reduce the cases and deaths more than the four fifths and down to less than an average of two and one third cases and six tenths of one death to each outbreak, I am exceedingly desirous of knowing what it is. But, inasmuch as that is the recent experience in Michigan (outside of the great cities), it does not seem best to give up the methods employed until evidence of a better method is produced.

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* *American Journal of the Medical Sciences*, May, 1890, p. 470.

† *Ibid.*

Meantime I would advise a continuance of sulphurous disinfection, for the purposes for which it is applicable, and for which it is greatly needed as stated above, not including the disinfection of excretions from the patient, for which chlorinated lime or liquid is applicable, nor of bits of diphtheritic membrane, which should be destroyed by fire, as should also all rags and everything else not too valuable used about a patient; and all clothing, bed-clothes, etc., that can profitably be boiled should be so treated.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for August 22d:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Aug. 16.	1,637,548	732	..	..	..	..	..	..	10	5	12	9	15
Philadelphia, Pa.	Aug. 9.	1,064,277	430	..	..	..	..	..	..	23	3	5	..	10
Chicago, Ill.	Aug. 16.	1,100,000	512	..	..	..	..	..	..	25	4	8	1	10
Baltimore, Md.	Aug. 16.	500,343	175	..	..	..	..	..	..	4	..	2	1	5
Boston, Mass	Aug. 16.	437,245	242	..	..	..	..	..	..	3	1	3	..	....
Cincinnati, Ohio	Aug. 15.	325,000	96	..	..	..	..	..	..	4	..	3	..	....
Cleveland, Ohio	July 26.	260,000	102	..	..	..	..	..	..	2	..	2	1	....
Cleveland, Ohio	Aug. 2.	260,000	132	..	..	..	..	..	..	8	..	..	..	1
New Orleans, La.	Aug. 2.	254,000	116	..	..	..	..	..	..	2	..	..	..	....
New Orleans, La.	Aug. 9.	254,000	120	..	..	..	..	..	..	1	1	..	..	1
Washington, D. C	Aug. 16.	250,000	72	..	..	..	..	..	..	4	..	..	..	....
Pittsburgh, Pa.	Aug. 16.	240,000	91	..	..	..	..	..	..	8	..	6	1	....
Detroit, Mich.	Aug. 9.	230,000	101	..	..	..	..	..	..	..	..	3	..	....
Louisville, Ky	Aug. 16.	227,000	53	..	..	..	..	..	..	4	..	..	..	....
Milwaukee, Wis.	Aug. 16.	220,000	85	..	..	..	..	..	..	1	..	2	1	....
Kansas City, Mo.	Aug. 9.	132,000	50	..	..	..	..	..	..	..	..	1	..	1
Kansas City, Mo.	Aug. 16.	132,000	36	..	..	..	..	..	..	2	..	..	..	1
Providence, R. I.	Aug. 16.	130,000	63	..	..	..	..	..	..	1	..	2	..	...
Indianapolis, Ind.	Aug. 15.	129,346	32	..	..	..	..	..	..	2	..	..	..	....
Toledo, Ohio	Aug. 15.	81,650	24	..	..	..	..	..	..	1	..	..	..	....
Nashville, Tenn	Aug. 16.	75,575	38	..	..	..	..	..	..	2	..	1	..	....
Fall River, Mass.	Aug. 16.	69,000	40	..	..	..	..	..	..	1	..	..	..	....
Binghamton, N. Y.	Aug. 16.	35,000	7	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	July 19.	34,397	13	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa.	July 26.	34,397	14	..	..	..	..	..	..	..	..	..	..	. .
Auburn, N. Y.	Aug. 16.	26,000	9	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Aug. 16.	22,011	10	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Aug. 10.	16,000	1	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Aug. 9.	15,000	7	..	..	..	..	..	..	..	..	..	..	....

Successful Operation for Actinomycosis.—"Dr. Matlakowski, of Warsaw, reports an interesting case of actinomycosis in a man which was successfully eradicated by operative measures. The patient, who was engaged in agricultural pursuits, was forty-six years of age, and had noticed for six weeks a rounded, movable tumor, which did not cause him any pain, under the angle of the jaw on the right side. He had been losing the teeth for the last fourteen years, they having fallen out without being carious. The last tooth in the right lower jaw had fallen out a year before. The tumor kept on increasing, and a week before admission a small abscess had broken. Not only was there no pain, but there was no difficulty in opening the mouth or in swallowing. When first examined there were two fistulous openings near the angle of the jaw, but a probe passed into them did not penetrate at all deeply, and could not be made to reach the bone; a considerable quantity of blood exuded in consequence of the probing. The discharge was scanty and looked like boiled sago mingled with bloody serum. The molars and canines were all wanting in the lower jaw on the affected side, the gum, which was healthy enough, having grown over their alveoli. The ray fungus having been found on microscopical examination, and there being a complete absence of any signs of disease elsewhere, an operation was decided on. Ample incisions having been made, parts of the masseter, digastric and sternomastoid, and the whole of the mylo-hyoid muscles were excised, together with the entire submaxillary gland and the lower part of the parotid, also the bridge of salivary gland substance connecting the two glands. A large number of arteries and veins had to be ligatured. At first the patient experienced some difficulty in swallowing, and in expectorating a quantity of tenacious and somewhat sanguinolent mucus, for the existence of which no physical cause could be found by examination of the lungs. However, after a time all these difficulties passed off, and the wound, which was, of course, a large gaping cavity in consequence of the quantity of tissue that had been extirpated, granulated up and healed over. Two years and a half afterward Dr. Matlakowski obtained information that the patient continued in good health."—*Lancet.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

CLINICAL LECTURES
ON SOME COMMONLY OBSERVED FORMS OF
PULMONARY DISEASE.

DELIVERED AT
THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

By JAMES K. CROOK, M. D.,
INSTRUCTOR IN CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS, ETC.

Lecture II.

Bronchial Asthma.—We have to-day, gentlemen, several patients with chest trouble who complain principally of one symptom—viz., shortness of breath. Ask any one of these what he or she is suffering from, and the answer will probably be "asthma." To the laity all these troubles involving difficulty of breathing are known by that name. This was formerly true among physicians also, until the researches of pathology taught us the vastly different conditions which produce this symptom. On investigation, we find that only one of these cases is entitled to the name of asthma as we understand it at the present day. Patient No. 1 has a well-marked case of mitral regurgitation; No. 2 has dropsy of the lower extremities and ascites, with a dilated heart, and probably is in an advanced stage of Bright's disease; No. 3 is suffering from chronic pleurisy with a moderate effusion; No. 4 is a case of pronounced emphysema; while No. 5 is undoubtedly a *bona-fide* case of spasmodic bronchial asthma. The patient is a stout old woman of seventy, and she informs us that she has a cough almost all the year round, being worse in the winter months. Sometimes it will cease for a little while during the summer. Her breathing, as you will see, is perfectly free and easy at present, but she states that several times during the week, and often when in bed, she is seized with a severe spell of shortness of breath. During the attacks she is obliged to sit perfectly quiet by an open window and in a position leaning forward. A loud wheezing occurs, which may be heard all over the room. The spells last from a few minutes to several hours. Last night she had an unusually severe seizure, which extended over most of the night. She has some shortness of breath also whenever she takes unusual exercise, but it is not attended by wheezing, and may be due to her stoutness and advanced age. On physical examination we find no signs except an occasional moist râle. If we could see the patient during a paroxysm of dyspnœa we should undoubtedly find a large number of sibilant and sonorous râles on auscultation, with probably a great prolongation of the expiration. We have here, then, a very well marked case of asthma attended by bronchitis. Beyond the slight lesions produced by the latter trouble there are no anatomical lesions in this disease. It is essentially a neurosis—according to Biermer, whose classical definition is commonly accepted, a neurosis depending upon tonic spasm of the bronchial muscles and caused by faulty innervation of the pneumogastric nerve. It is probable that during the seizures the bronchial membrane is very much congested from distention of the small vessels in the bronchial walls. This has, in fact, been proved by the tracheoscopic researches of Stoerck, and has been said by Theodor Weber and others to be the true anatomical basis of the disease. Some authorities, led by Wintrich, maintain that there is no spasm of the bronchial tubes during the attacks, but a spasmodic fixation of the diaphragm and other muscles of respiration. The fact of bronchial contraction, however, is abundantly shown by the presence of sibilant and sonorous râles and loud wheezing. There are even other theories of the pathology of asthma, but that of Biermer before mentioned is most satisfactory. The asthma crystals discovered by Leyden about twenty years ago are not believed to be concerned in the causation of the paroxysms. As before stated, there is usually, but not always, a certain amount of bronchitis in asthma. This bronchial inflammation doubtless greatly increases the tendency to the disease, and probably in many cases is directly responsible for it by increasing the irritability of the respiratory mucous membrane. The ætiological relations of asthma are not, however, perfectly understood. There is, no doubt, an important hereditary influence in some cases, but the great majority are not referable to this cause. Among the causative factors besides bronchitis may be mentioned enlarged and inflamed bronchial glands, nasal catarrh, amygdalitis, the inhalation of irritants, such as dust, the pollen of certain plants, etc. Reflex disorders of the alimentary tract, uterus, and ovaries are also probably concerned in some instances. The diagnosis of bronchial asthma is easily made (1) by the paroxysmal nature of the attacks, and (2) by the absence of the physical signs of other pulmonary or of cardiac troubles. The differential points between asthma and emphysema will be discussed in speaking of the latter disease.

With reference to the prognosis, we can not speak very hopefully in our present case. In youth the tendency is toward recovery, but in a person of this old lady's age there is a great probability that it will continue during life. The persistence of the disease may possibly lead to the development of other pulmonary troubles, more especially to emphysema. There is always a transitory emphysema during the asthmatic paroxysms. The alveoli become very much distended, and with repeated attacks are liable to lose their elasticity and remain permanently dilated. This leads to an extreme attenuation of the interalveolar walls and finally to rupture, two or more cells becoming merged into one emphysematous bleb. Lobular pneumonia or pulmonary œdema may also result from the frequent congestion of the small bronchi involved in the asthmatic attacks. During the paroxysms the right side of the heart has a much greater amount of work to do than usual, in order to drive the blood through the distended and congested vessels. This may lead to enlargement and dilatation of the right cavities, and eventually to renal disease and dropsy. However, these terminations of asthma are rather the exception than the rule, and, though we should make no promise to cure the disease, we can do much to allay its severity and increase the patient's comfort. The treatment resolves itself naturally into measures to mitigate the intensity of the paroxysms and to prevent their recurrence. During the seizure the patient intuitively seeks relief by going to an open window and sitting in a bending position, with the elbows on a table or on the knees. This natural instinct should be encouraged by having the clothing about the chest and abdomen loose and free from constrictions. If the weather will permit, all the windows of the apartment should be raised. Any exciting cause which may be discovered should be removed as speedily as possible. I have seen severe asthmatic attacks relieved by a hot rectal injection or an ipecac emetic. The remedial agent I employ most largely for the paroxysms is Hoffmann's anodyne. Thirty drops of this preparation may be given at the outset (to adults), and repeated two or three times at half-hour intervals if required. It acts well in conjunction with strong black coffee given *ad libitum.* These measures will relieve many cases, but they are not always efficient, and we shall not infrequently find it necessary to run the gamut of remedies without finding one that is. A hypodermic injection of eight or ten minims of Magendie's solution of morphine with about one eightieth of a grain of atropine will sometimes abort an attack, although I am aware that so distinguished an authority as Salter declaims against the use of opiates as being rather harmful than of any benefit in the treatment of asthma. In a severe case at the Bellevue chest clinic a few days ago this dose cut short an attack in a few minutes. A combination of Hoffmann's anodyne and the U. S. P. (1870) solution of morphine, constituting the mistura asthmatica of the Bellevue formulary, will often prove efficacious. I have seen good results from the inhalation of a few whiffs of chloroform, but the inhalation of nitrite of amyl as well as the internal administration of nitroglycerin has not been successful in my hands. Various other remedies, including brandy, stramonium, arsenic, eucalyptus, lobelia, musk, valerian, niter paper, etc., have been recommended, but it is beyond our province to attempt a discussion of all these agents. In the case before us, as in the majority of asthmatics, the treatment of the intervals is to be directed to the accompanying bronchitis. This may be treated in accordance with the directions mentioned in our remarks on chronic bronchitis, but here we should not fail to add the iodide of potassium to the cough mixture in doses of five, ten, fifteen, or twenty grains three or four times a day. If we find that the bronchitis is not amenable to treatment, or the attacks are purely neurotic in character, we can hardly hope to cure the disease with medicines. A change of surroundings or climate is then advisable. Generally speaking, persons with asthma are more comfortable in the pure fresh air of mountainous or hilly country districts, but it sometimes happens that persons living in the country escape their asthmatic paroxysms by coming to the city. The climatic part of the treatment is, therefore, in a great degree experimental.

LECTURE III.

Chronic Vesicular Emphysema.—Our first patient this morning, gentlemen, is J. L., a 'longshoreman, aged fifty-three. He is a rather stout, strongly-built man, and does not appear to be out of health, yet we shall find that his disease almost destroys his power to earn his living. Several years ago—he does not remember how many—his trouble came on with a great cough. This cough did not leave him entirely, and, after a winter or two, he commenced to suffer from shortness of breath, which came on especially after some unusual exertion, and did not seem to trouble him much as long as he was quiet. The dyspnœa has continued to increase gradually until now he is unable to walk half a dozen blocks without feeling it. As his work is very heavy, he finds this symptom a great hindrance to him. If you examine his skin closely, especially about his chest, you will notice that it is traversed by numerous minute blood-vessels, which give it a rather congested appearance. The veins about the neck are also abnormally prominent. The breathing movements, too, are not natural. There seems to be considerable motion about the chest and neck, but it is to a great extent produced by the voluntary muscles of respiration. It is not expansive in character, but almost entirely of the up-and-down variety. A close inspection will show you that the ribs rotate very little, and there is but a slight increase in the size of the intercostal spaces during a deep inspiration. The lower part of the chest has the appearance of being too prominent in front, although there is no decided bulging. When I lay my hand on the chest, I find that palpation confirms inspection so far as the chest movements are concerned, but I am not sure that the vocal fremitus is at all modified. Mensuration we find to be an important method of examination in this case. On a level with the sixth rib in front I find the chest to measure, at the end of a deep inspiration, thirty-nine inches, while at the end of a prolonged expiration it is thirty-seven inches and a half. This shows a variation of only an inch and a half, which is much less than it should be in a person of this man's physique and laborious manual occupation. An expansion of three or four inches would be nearer normal. When I percuss the chest, I find resonance all over the lungs on both sides; but what kind of resonance is it? You will observe that it exists in situations where we find dullness or flatness normally, as over the precordial region, low down over the liver, etc., and you will observe also that the quality differs somewhat from ordinary healthy resonance, having here something of a metallic character. It is a good example of the vesiculo-tympanitic resonance first described by Professor Flint. On auscultation, I find an occasional mucous râle, and I find also a great change in the respiratory rhythm. The expiration is very long, indeed twice as long as inspiration, whereas in health it should be shorter, the proportion being about as ten to eight. In addition, the expiration is very low-pitched, being almost inaudible low down posteriorly. I can make out no appreciable change in the vocal sounds. On examining the heart, I find the signs of an hypertrophied right ventricle.

From this man's history and the physical signs which are present, we make out a very well marked case of vesicular pulmonary emphysema; not one of those exaggerated cases, with a barrel chest, a displaced heart, and œdematous extremities, but still sufficiently developed to leave no reasonable doubt as to the diagnosis. If we could see his lungs, I feel no doubt that we would find them enlarged and extending beyond their natural limits. We should find numerous air-blebs caused by overdistention and coalescence of the pulmonary alveoli. This condition would be most marked along the free margins and at the apices of the lungs. If we were very careful, we should also see traces of atelectasis or collapse of the air-vesicles in some portions of the lungs. Adjacent to the dilatations here would doubtless be certain pigmentary changes owng to a transudation of coloring matter from the small alveolar blood-vessels These vessels, by the distention of he alveolar walls, become so compressed as to allow the passage of the watery elements only; hence the pigmentary leposits. When this condition continues long, as it doubtess has done here, some of the little vessels become obliterted, and, the pulmonary circulation being thus impeded, a backward pressure is extended through the pulmonary arery upon the right ventricle, which soon yields to dilataion and enlargement. We have already discovered the physical evidences of right ventricular enlargement in this ase. The usual lesions of chronic bronchitis are no doubt present here, and there is probably also a hypertrophic thickning of the muscular coats of the bronchial walls. In the iagnosis of the case we can readily exclude phthisis and leurisy with effusion by the absence of the physical signs f those diseases. Pneumothorax is excluded by its great arity, by its absolutely tympanitic percussion note, by its usually) sudden onset, and by the fact of its being almost lways unilateral. The case differs from spasmodic asthma, ure and simple, in the fact that the dyspnœa is brought n by exertion and is not paroxysmal. He thinks he has ad asthmatic attacks, however, and this does not surprise me, as there is undoubtedly a very close relationship between the two diseases. All asthmatics do not become emhysematous; but you will find, on careful inquiry, that lmost every case of pulmonary emphysema begins with or preceded by spasmodic asthma. As to the exact mode f development of vesicular emphysema, two principal theoes, known as the inspiratory and expiratory theory, have eld sway. The former was advanced by Laennec, who garded the presence of bronchitis as an essential factor, nd on this point authorities do not differ. This bronchial nflammation leads to a certain amount of exudation in the ubes, causing more or less obstruction to the ingress and gress of air. But expiration, according to Laennec, being ss powerful than inspiration, is unable to expel the air rawn in by inspiration, on account of this mucous accuulation. The air-cells in consequence continue to distend ntil rupture takes place. This explanation of Laennec's as accepted for many years, but is rejected by a majority modern authorities. According to the observations of utchinson, Gairdner, Mendelssohn, and Traube, Laennec as mistaken in his view that inspiration was more powerl than expiration. They have shown that more air was pelled through the tubes involved in the mucous obstrucon than was admitted by inspiration. The conformation the tubes, according to Gairdner, also facilitates the gress while retarding the ingress of air. This consists in the fact that the tubes are smaller as they approach the air-cells, and, of course, larger as they go out. On this account the exudation may act in the nature of a ball-valve, being easily displaced by expiration in the direction of the larger diameter and allowing free exit, but at once closing the tube on inspiration and effectually cutting off the entrance of air. In this way the small amount of air remaining in the air-cells becomes so rarefied that collapse of their walls inevitably ensues. Neighboring air-vesicles receive too much air in consequence, and a vicarious or supplementary emphysema is thus established.

The prognosis in the present case, as in most cases of pulmonary emphysema, is not favorable. There is no considerable danger to life from the affection, but, on the other hand, there is no probability that the patient will ever be entirely well again. The cells which are only dilated may be restored, but the ruptured ones do not admit of reparation. Emphysema increases the danger from intercurrent diseases. It also causes dilatation and hypertrophy of the right side of the heart, which increases the danger. It may even threaten life from the liability of bronchorrhœa, with profuse muco-purulent expectoration occurring and filling the tubes, and thus bring about death from asphyxia. Some authors have taught that the presence of emphysema affords more or less immunity from pneumonia, pulmonary œdema, and consumption. There may be a grain of truth in this, as emphysema diminishes the amount of blood in the lungs—a condition which, as we know, is not conducive to the development of these troubles.

The first indication in the treatment of pulmonary emphysema consists in the employment of measures to prevent the extension of the disease and so far as possible to restore the pulmonary structure to a condition of health. This indication is best carried out by means of nourishing food, fresh air, careful habits, avoidance of strains, etc., and the administration of tonics, more especially some of the preparations of strychnine. One of the most valuable of these is an elixir of the phosphate of iron, quinine, and strychnine, a teaspoonful of which represents: of the phosphate of strychnine, one sixtieth to one one-hundredth of a grain; phosphate of iron, two grains; and phosphate of quinine, one grain. This dose should be taken three times a day before meals. If it fails to agree, as is not often the case, recourse must be had to other preparations. I do not believe strychnine to possess any peculiar value in restoring the diseased lung tissue, and prescribe it only for its tonic effects. Certain mechanical means, to which we can only allude in the briefest possible manner this morning, have been devised to facilitate resolution of the involved air-vesicles. They mostly involve the principle of pneumatic aspiration, the patient inhaling condensed air and exhaling into rarefied air. The idea involved is that the inhalation of condensed air retards the respiration, allowing more oxygen to be consumed, and thus causes a more complete tissue metamorphosis; while exhaling into rarefied air facilitates the withdrawal of the abnormal amount of residual air in the distended alveoli. The most satisfactory apparatus with which I am acquainted is that of Waldenburg, as modified by Tobold and manufactured by

Messrs. J. Reynders & Co., of this city. A second indication in the treatment of emphysema consists in the relief of the complications, chronic bronchitis being, as a rule, the most important. The measures involved in the treatment of this affection have been sufficiently outlined in our remarks on bronchitis. But here, as in bronchial asthma, we shall find the iodide of potassium to be of great advantage. It must be given in considerable doses and long continued. I usually combine it with the compound spirit of ether for the relief of the dyspnœa. In advanced cases a dilated heart and œdematous lower extremities are apt to demand attention. A favorite formula under these circumstances is as follows: ℞ Spt. æth. co., ℥ j; ammon. carb., ʒ iij; inf. digital., ad ℥ iv. M. Sig.: A teaspoonful in a little water every two, three, or four hours. We can not hope to cure many cases of this disease, but it is remarkable how even in apparently the most unfavorable examples the patients will rally and attain a degree of comparative comfort under proper management.

Original Communications.

THE FACTORS OF THE RESPIRATORY RHYTHM AND THE REGULATION OF RESPIRATION.*

By W. Y. COWL, M. D.

In an article entitled The Self-regulation of Respiration, read before the American Physiological Society in New York, December 28, 1889, and published in the issue of this Journal for January 18, 1890, Dr. S. J. Meltzer, of this city, brings forward a new theory of respiratory rhythm, or, more precisely, a revival, under a new hypothesis, of the idea of the peripheral incitation of the inspiration in ordinary respiration, which for several reasons—but chiefly because of a disregard therein of the mass of facts that show a central origin for inspiration, and already furnish indeed sufficient and simple explanation of the respiratory rhythm—deserves further attention.

Instead, namely, of referring the impulse to inspiration to the respiratory center, as is usual at the present time,† he supposes an incitation of this center by the vagus to occasion each inspiratory effort, and in the following lines, which I regret to have to repeat, he gives the only reference in his paper to the facts that are acknowledged to show the non-pulmonic incitation of inspiration.‡

"For the production of inspiration, Gad (1) seeks the cause in a center in which a constant inspiratory stimulus resides. Thus the inspiration is said to start from the center, and the inhibition of this inspiration is to be effected by reflex from the lungs. Hence the inspiratory nerve fibers which undoubtedly exist in the vagus find no application in Gad's theory, and this alone speaks sufficiently against this hypothesis."

But to give an idea of the general contents of Dr. Meltzer's paper.

After briefly stating the results of a series of electrical stimulations of the vagus largely stronger than those used by other observers in this field, and accepting the theory (2) of the induction of expiration by the inspiratory expansion of the lung, and the excitation thereby of pulmonary vagus fibers reflex-inhibitory of inspiration, the author puts forth the supposition, upon the basis of his experiments, that inspiration arises by a similarly and in fact simultaneously effected excitation of pulmonary vagus fibers reflex-incitatory of the inspiration, the excitation of the respiratory center by which, at first hidden under the predominating inhibition, outlasts the same and causes then a new inspiration.

In the research itself he obtained, upon using weak or medium strong electrical excitation, like previous experimenters, a varied effect upon the respiration—namely, as stated, of an inspiratory or of an expiratory character, while upon using very strong stimulation he found the effect uniformly expiratory, consisting "partly in passive, partly in active expirations."

The course of these expirations—in fact, their number and frequency, if repeated during any one stimulation of the nerve—is not stated; but in another place it is left to be inferred that, at least in the main, there was an arrest of respiration—namely: "But we can also conclude, wherever we find after an expiratory arrest an inspiratory after-effect, that inspiratory fibers are present in the trunk and have been likewise stimulated in a latent manner. But, as we have demonstrated in all animals under strong stimulation, such an inspiratory after-effect following an expiratory inhibition, we may conclude that both kinds of nerves exist in the vagus of all animals."

In the case of his stimulations of the vagus the author was able to exclude the occurrence of a coexcitation of the superior laryngeal nerve in that, as he had previously shown (3), such excitation always produces a succession of swallowing acts, which were absent in his experiments, and he therefore used stronger currents than previous observers without fear that the recorded effects were due to such coexcitation.

The direct ground adduced by Dr. Meltzer for his new and ingenious hypothesis, above given, is not, then, the immediate effects of these strong excitations of the vagus during the time of the same, but the character of the respiration after their cessation—namely, a notably increased inspiratory activity over that before the excitation, which the author assumes to be a specific effect of such excitation of the so-called inspiratory fibers in question, outlasting the effects of the excitation of the inhibitory fibers. He also draws an analogy between his experiments and those of Head (4) upon the intact animal, wherein a prolonged insufflation of the lungs occasioned an inhibition of respiratory effort during the time of the same, and a marked inspiratory effect after its cessation.

In bringing forward this hypothesis, the author makes no mention, on the one hand, of the assumptions concerning such experimentation upon the vagus, which form a prerequisite to this use of its results, nor does he, on the other, bring evidence to show that this inspiratory after-effect is not dyspnœa from non-aeration of blood coursing through the respiratory center, such as indeed is to be awaited upon arresting respiration in expiration.

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* Manuscript received from the author July 30, 1890.—Editor.

† Flint, *Text-book of Physiology*, New York, 1888.

‡ Hermann, *Lehrbuch der Physiologie*, Berlin, 1889.

The conclusions, tacit or expressed, from simple electrical excitation of the vagus, which are necessary to form a hypothesis thereon concerning the ordinary respiration, are the following—namely, first, that the fibers of the vagus, the excitation of which causes the changes in respiration, are pulmonary fibers and not sensory fibers from the lower part of the larynx (deriving its sensibility in part from the inferior laryngeal nerve [5]), the trachea, œsophagus, stomach, or intestine, not to include the bronchi; and, secondly, that they are fibers which exercise their function in ordinary breathing, and not fibers either from the alveolar walls, the pulmonary pleura, or the bronchioles or bronchi, which merely come into play under extraordinary circumstances of the respiration—*e. g.*, in coughing.

That extraordinary circumstances do call forth special action in a reflex manner is shown quite conclusively by one experiment.

Berns (6) under Donders, and M. Rosenthal (7) under Gad, have induced dyspnœic breathing immediately by the first of a series of inhalations or by a single inhalation of carbonic-acid gas. In the latter's experiments the gas was purified and the gas-holder so arranged that, upon the first inspiration after opening the communication with the trachea, the gas was inhaled. Hydrogen respired in the same way produced only a secondary, *i. e.*, a later-appearing dyspnœa, dependent upon deficient arterialization of the blood. A secondary dyspnœa alone was produced by the carbonic acid when the vagi were previously cut. The immediate dyspnœa excited then is of peripheral origin.

That the vagus fibers, the terminations of which become excited in this instance, are pulmonary, is open to a certain slight doubt, which is lent strength by the known excitant action of carbonic acid on the dermal surface (9), for it is impossible to ascertain what part if any of the immediate dyspnœa is due to excitation of the sensory nerve fibers distributed to the lower part of the trachea, below the point at which the tracheal cannula may be introduced. That this portion of the respiratory tract is much less sensitive than the pulmonary parenchyma, however, is to be inferred from an experiment respecting such excitation of the tracheal surface, directly to be mentioned.

Other facts indicating the existence of special nervous provision for extraordinary circumstances of the respiration are that the inhalation of chloroform (through a tracheal cannula) causes at once inspiratory dyspnœa, as found by Knoll (5), who also passed the vapor through the length of the trachea alone without effect upon the respiration, likewise that vapor of ammonia causes immediate expiration, and, furthermore, the peculiarity noted by Head, that, after interrupting the impulses coursing through the vagi by the method of Gad (by local freezing of the nerves), at the beginning of their resumption of power, upon thawing, an insufflation of the lungs will cause an inspiratory effort of the diaphragm, instead of an expiratory effort as in the intact animal.

But, in addition to the doubts above expressed, which arise in the present state of knowledge concerning the vagus, whenever the effects upon the respiration of simple electrical excitation of the nerve be boldly referred to its pulmonary fibers, and indeed obtrude themselves when the assumption be made that these fibers thus act continually in ordinary respiration, there are positive reasons which reenforce them.

First, the expiratory effect, with stoppage of respiration, upon electrical excitation of other nerves than the vagus, or indeed upon natural excitation of their endings, and the marked increase in the inspiratory activity thereafter. Evidence of such is to be found in the graphic tracings of the respiration upon stimulation, notably of the splanchnic and infra-orbital nerves, published by Knoll (10), who also calls attention to the signs in the tracheotomized animal of crying efforts occasioned by strong excitation, and gives tracings of the respiration, showing it to be very much increased and remarkably regular.

Again, the fact observed by the same author that strong excitation of the inferior laryngeal nerve causes expiratory effects (5), while excitation in the same manner of the vagus beyond this branch—namely, in the chest—produced, as a rule, inspiratory effects. Thus we perceive that, by excitation of the vagus in the neck, there is a probability, when obtaining expiratory effects, that they come from the excitation of the sensory fibers of the recurrent laryngeal nerve, and not from the pulmonary branches of the vagus.

As previously noted, Dr. Meltzer does not refer to vitiation of the blood as a possible cause of the dyspnœa after the arrest of respiration during his excitations of the vagus, although such is to be expected, either upon simple stoppage of the respiration, or especially when the arrest occurs in expiration, for dyspnœa appears more quickly and strongly after a cessation of breathing when the chest is contracted than when expanded and full of air—a fact, however, which, if, according to the theory, the inspiration be excited wholly, nay, or even partially, by expansion of the chest, is certainly difficult to explain.

The sensitiveness, on the other hand, of the respiratory center to changes in the constitution of the blood, which was long since indubitably shown under various conditions by the researches of Rosenthal (11), Pflüger and Dohmen (12), and others, is particularly well demonstrated by Fredericq (13), who causes the blood to flow to the brain through only a single artery in each of two rabbits, whereby, in their quiet state, as shown by Gad, though in each both vertebrals and one carotid be occluded, no changes in respiration or general blood-pressure are occasioned, and thereupon, by means of crossed cannulas, so connects the free vessels that each animal serves the brain of the other with blood. Upon then partly obstructing the trachea in one animal, increased breathing appears in the other, while diminished breathing is to be observed in the one supplied with insufficient air.

That the cause of the changes in respiration here does not lie in the decrease and increase, respectively, in the amount of oxygen inspired, but in the variation from the normal amount of carbonic acid in the blood circulating through the respiratory center of each animal, is to be concluded from the researches especially of Gad and M. Rosenthal (7), Miescher (14), Kempner (15), and others.

The delicate reaction of the respiratory center to a change in the constitution of the blood in this experiment, together with the many current facts showing the influence of nervous impressions reflected upon this center, convey an idea of its importance for the regulation of the respiration under various circumstances of the individual.

Two observations of Gad (1) and Sig. Mayer (16) show, furthermore, the change in the excitability of the respiratory center which is effected by considerable changes in the blood-supply. The former observer, on diminishing the flow of blood to the brain for a time and then restoring the current to its previous amount, observed a stoppage of respiration. The latter noted the same on occasioning a pause in the heart's action.

We have in these experiments a demonstration of the two ground factors in the above-mentioned regulation—namely, the excitability of the spino-bulbar respiratory center, and the constantly present excitant of the same, as well as a proof of the variability of each of these factors whereby this regulation becomes effected.

In respect of the experiments of Head, cited by Dr. Meltzer in support of his theory, it is to be noted that the former, without expressly stating what he does regard as the causation of the results obtained by him, refers to the after-effect upon the action of the diaphragm of his prolonged insufflations of the lungs, in the following words, the here Italicized portions of which alone concern us in this connection:

> *If the lungs are inflated, the expiratory pause produced by the inflation is finally broken by an inspiratory contraction, although the lungs are still dilated.* This contraction is strong, of comparatively short duration, and traces a curve with an extremely sharp crest. But if the lungs are allowed to return to the normal volume just before this interrupting inspiration would normally have made its appearance, the breathing undergoes a very different modification.
>
> At the moment of collapse the inspiratory muscles contract strongly, and produce a strong, flat-topped curve. This contraction is of about the same strength as the interrupting inspiration, but exceeds it greatly in duration. Thus sudden return of the lungs to the normal volume after an inflation of considerable duration produces a strong and long inspiratory contraction. *It might be objected that both the interrupting inspiration and the strong inspiratory effect which follows collapse after an inflation were due to the dyspnœa which must necessarily result during such a long pause in the breathing. However, I think that this explanation will scarcely suffice to explain either phenomenon; for, provided the inflations are of the same strength, the pause is broken at almost exactly the same moment, whether oxygen, air, or hydrogen be used to inflate the lungs.*
>
> *It is true that the strength of the interrupting contraction is generally greatest when the lungs have been inflated with hydrogen, but the time of its appearance is the same with all three gases under otherwise similar conditions.*
>
> Again, the fact that the animal is breathing oxygen during and after the inflation does not diminish the strength of the inspiratory contraction, which is produced by the sudden return of the lungs to their normal volume after the inflation. *Indeed, it is rather favorable than otherwise to its appearance, for, if the animal is dyspnœic, this inspiratory contraction is of much shorter duration and is much more difficult to produce than when the lungs have been inflated with air or oxygen.*

It will be noticed in the above that the author, without leaving the question an open one, does not distinctly hold these inspirations, during or after prolonged insufflations of the lungs, to be due to central (direct) or to peripheral (reflex) incitation; namely, to vitiated blood in the medulla, or to excitation of the vagus in the lungs; but it is evident that the latter is his view.

This conclusion does not seem to me to follow, however, from the simple circumstance stated, that the interrupting inspiratory effort was stronger on the use of hydrogen than of air or oxygen.

Exception may also be taken here to the author's use of the word dyspnœa, whereby he wrests it from its universal clear and symptomatic meaning of increased respiratory effort with want of air, and devotes it to a condition of the respiratory center, due to vitiation of blood, for the reason, namely, that neither of these definitions includes the other; for we may have, on the one hand, as already detailed, a peripherally arising dyspnœa, and on the other, as in the experiments of Gad and of Sig. Mayer, already cited, a vitiation of the blood with diminished rather than increased breathing; or, as in the author's case, a diminished respiratory effort with increasing vitiation of the blood, until finally the inhibition of the respiration is broken through by the increased excitation of the center; or, again, a stoppage of the breathing after a dyspnœic patient draws the first long breath or two upon a tracheotomy, or the same when, after a severe hæmorrhage, a transfusion is quickly made; and yet in all these cases the center contain vitiated blood and tissue fluid, the condition of which has only begun to become normal.

The difficulties, moreover, to which such a conception of dyspnœa are apt to lead is illustrated in the last sentence of the quotation, in which the animal is spoken of as "dyspnœic," when in reality it is apnœic (17).

That the above-mentioned experiment, as given to us, is, furthermore, of altogether too complicated a nature to be more than food for controversy, or better, perhaps, for further investigation, is indicated by the following considerations, as well as by the description itself:

1. It has been shown, especially by the above-cited experiments of Gad and M. Rosenthal, which covered the use of both gases concerned, that dyspnœa unmistakably appears upon a slight increase of the carbonic acid in the inspired air, while a much greater corresponding decrease of oxygen in an atmosphere breathed is requisite for a similar effect; in fact, they consider that in respiration from a limited air space the dyspnœa is in reality occasioned by the carbonic acid.

2. In the above-cited experiments of Head, the conditions for the diffusion of carbonic acid from the blood into the pulmonary alveoli were apparently the same in all three cases.

3. By reason of the quietude of the animal, which, in

the first place, narcotized, in the second made no respiratory effort, the general consumption of oxygen was undoubtedly small; the vitiation of the blood in general was, therefore, reduced to a minimum from the beginning of the experiment on.

4. As the respiratory center had ceased its respiratory activity, we may assume both its call for oxygen and the vitiation of the blood and tissue fluid within it to have been abnormal—to have been abnormally small.

5. In that the insufflations with hydrogen, commencing during normal respiration, were superimposed upon the residual plus the reserve atmospheric air then in the chest, there was merely less oxygen available therein than when air or oxygen was injected.

6. By their considerable duration (some twenty seconds), and the continually lessening hæmatosis, especially in the case of the hydrogen insufflations, the excitability of the respiratory center would by this of itself be reduced—would not, therefore, respond so quickly or so well (1, 16). That this was the case is to be seen from the last sentence f the quotation, which seems to contradict the previous tatement concerning the effect of hydrogen.

7. Where less oxygen is furnished to the organism, less arbonic acid is formed (15).

8. The data given are insufficient for estimating the wo variable factors at the center—namely, its excitability, nd the amount of excitant offered to it.

As indicated at the beginning of this paper, an inhibiory function of the pulmonary vagus in ordinary respiraion has been established and without recourse to excitaion of the nerve stem—namely, the power of cutting off nspiration and inducing expiration, which was maintained n the first part of the theory of Hering and Breuer.

This fact was rendered probable by the experiments of hese observers (2), who noted the effect on the respiratory fforts of pulmonary insufflations in the intact animal and he absence of such effect after the vagus was cut. The onclusive proof of the same was brought by Gad (1), who, y using chloral instead of opium as a narcotic, by a means f precisely and continuously registering the changes in the olume of the lungs with inspiration and expiration (18), ut chiefly by the employment of a new and trustworthy ethod of suddenly interrupting the nervous impulses oursing through the vagus without exciting the nerve hereby—namely, by locally freezing it—was enabled to bserve, so soon as this latter was done, that the inspiraons were deepened and their frequency reduced, just as found some time after cutting the vagi, and also that the spiration was carried on with a much greater distention f the chest, while a new pause, relative or absolute, apeared at the end of inspiration, and the normal one at the nd of expiration in ordinary quiet respiration disappeared, that the tracing of the latter appeared inversed and agnified from the moment on when both nerves were ozen through, although the animal often breathed less air ereafter than before.

From this alteration of the type of respiration it is evient that a restraining, an inhibitory influence has been removed; for, as above said, not only were the individual inspirations now deeper, but the inspiratory muscles continued each time in a state of contraction after the inflow of air had ceased, while the expirations were cut short by a new inspiration, so that altogether the mean expansion of the chest remained by a considerable amount above its former level.

We are also furnished, however, by the above experiment with the presumption of the sufficiency of the direct action of the respiratory center in inciting inspiration, for the respiratory activity upon eliminating the influence of the vagi, instead of decreasing, has markedly increased. We find, moreover, in the following experiments of Flint (19), to which we would call especial attention by reason of their obvious incompatibility with the theory of Dr. Meltzer, a further evidence of the sufficiency of the action of the respiratory center for the incitation of ordinary respiration. This observer noted in an animal abundantly and regularly supplied with air by a bellows, and which in consequence thereof had ceased respiratory effort, that the latter would begin upon letting arterial blood, and that the same would occur whether the vagi were intact or cut. The conclusion of the author therefrom—that the incitation to inspiration did not flow from the lungs—was the first emancipation from the confusion that seems to have been stamped upon the subject by the various memoirs of Marshall Hall (20). The complement to this was furnished by Rosenthal (11*a*), who showed, by cutting the various cerebral and sensory paths to the medulla oblongata, that respiration was not a reflex act.

Hermann and Escher (21), by occluding the veins leading from the brain and cervical cord, showed that it was merely lack of circulation and not the emptiness of the blood-vessels by which, in Rosenthal's researches on this point, the dyspnœa was caused, and that therefore the conclusion of the latter—that occlusion of the cerebral arteries acted by disturbing the tissue changes in the center—was justified.

As pointed out by Gad, the pause following normal quiet expiration indicates that the inhibitory influence from the vagus, which cuts off the inspiration, overlasts the latter. The existence of this pause at the end of expiration and the absence of such at the end of normal inspiration are adduced by him, in addition to the presumable sufficiency of the central incitation to inspiration, against the second part of the theory of Hering and Breuer, according to which the inspiration is incited by reflex from the diminishing lung, just as expiration is induced by inhibitory reflex from the expanding lung.

As this view still remains undemonstrated, notwithstanding extended researches directed to the same (4), we may regard the causation of the respiratory rhythm in the following manner, substantially as formulated by Gad, who divides it into three factors, namely:

1. To incite inspiration: The constant presence in the respiratory center of an excitant, probably carbonic acid.

2. To occasion expiration: The lowering of the excitability of the center below the point of response to the amount of excitant present through mechanical excitation of the vagus in the lung in inspiration.

3. For the continuance of expiration: A persistence of this effect until the excitability of the center has again become sufficiently great to determine reaction to the excitant.

Upon this basis a regulation of the respiration—namely, of the depth and frequency of the respiratory efforts and of the mean distention of the chest, according to the position, condition, and activity of the individual—would depend (1) upon the constituency of the blood furnished to the respiratory center, and (2) upon the nervous impulses of various kinds which, reflected upon the respiratory center, raise or diminish its excitability, the latter acting to supplement the former, just as at birth a cold shock assists the stoppage of the placental circulation in occasioning the first respiratory efforts.

With reference to the constant influence of the vagus upon respiration, which we have already noted in the researches of Gad on the normally breathing animal, the following experiment by Hering and Breuer (2), which demonstrated the presence of such an influence under the conditions specified and showed it to be independent of the motions of the lungs, concerns us respecting the theory of Dr. Meltzer at this point. Upon sending a constant, even current of air through the thereby distended and multiply-punctured lungs, the rhythmic respiratory efforts continue, and they at once diminish in frequency upon cutting the vagi, just as in the normally breathing animal.

Recently it has been found by Loewy (22) that, by rendering one lung airless, impulses cease to flow therefrom to the respiratory center through the vagus, which was shown by cutting the vagus of the other lung, when the respiration changes, just as after section of both vagi in the normal animal, while section of the nerve on the side of the atelectatic lung causes no change in the respiration; and it has been confirmed by inflating the airless lung, when, if its vagus be intact, the former frequency, and we may allow ourselves to believe also the former type of respiration, is restored.

These experiments, as well as the simple pulmonary insufflations of Hering and Breuer and of Head, have been considered to show that it is the expansion of the lung that excites the fibers inhibitory of inspiration in the vagus, and Dr. Meltzer has founded his theory of respiratory rhythm, as before stated, on this idea.

Without going further into the question in this place, I wish, however, to call attention to the fact that this is only an inference; for in the experiments of the above-named observers there was, besides expansion, also pressure present, and, in fact, considerable pressure, the influence of which, if it have an influence, was not excluded or considered by them.

The researches of Loewy, in the absence of such exclusion, simply show that the constant normal inhibitory influence of the vagus on the respiration may be due to the state of expansion of the lungs, or to their intermittent active expansions, or to the intermittent pressure or rise of pressure in the alveoli, or to some two or all of these.

But another supposition in this theory deserves attention, in that it could have been readily avoided by leaving the question an open one—namely, the assumption of two kinds of pulmonary fibers in the vagus for ordinary respiration; the one for inspiration, the other for inhibition of the same; for it is possible that, by reason of the nature of their connections with the central ganglia, or of their endings in the lungs, one set of fibers suffices for all functional purposes, so that one degree or kind of excitation effects ordinary incitations or inhibitions; other degrees or kinds of excitation, extraordinary incitations or inhibitions. This is an alternative, mentioned indeed by Hering and Breuer in connection with their own experiments, and were still more worthy of regard in building upon the effects of artificial excitation of the nerve stem.

In conclusion, it remains only to note that the communication of Dr. Meltzer is restricted to his explanation of the respiratory rhythm, and does not concern itself with the regulation of respiration; indeed, the question that very naturally suggests itself—namely, what self-regulation of the respiration can, under any normal circumstances, be exerted alone by an expanding lung, which by one and the same process excites both inhibiters and exciters of the respiration—is not even alluded to.

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THE EXTRACTION OF LENSES DISLOCATED INTO THE VITREOUS.*

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Since the publication of the recent papers by Dr. Agnew, Dr. Webster, Dr. Pomeroy, and Dr. Knapp upon the subject of the extraction of lenses dislocated into the vitreous, the writer has collected a number of cases of dislocation of the lens into the vitreous, due to traumatism, which have been operated upon by himself during a period of several years, and now presents the histories of the following thirteen cases, with some remarks upon the method of operating, for the consideration of the society. The interest excited by a description of the method devised by Dr. Agnew, with an instrument—the bident—invented by himself, has not sufficed to conceal from the mind of the writer the real value of the objections raised against the use of this instrument. None of the cases described in detail in this paper were operated upon with the bident, and the writer has had no personal experience with the instrument. No very great difficulty has ever been experienced in attempting to remove lenses dislocated into the vitreous by the methods hitherto in general use, and in none of the cases here reported have any bad results followed. The extraction of a lens from the vitreous is a more or less difficult operation, and any case may very well differ from all others in some minor points. The more serious the traumatism has been, and the greater the resulting disorganization of the eye, the more difficult will be the operation for the removal of such a dislocated lens, and the more serious the possible accidents during the operation.

The writer's experience is in accord with that of Dr. Knapp, who believes it possible, "by external manipulation, to extract lenses dislocated and swimming in the vitreous without accident and with preservation of the natural pupil." Not only is this true with regard to lenses entirely dislocated and floating freely in the vitreous, but the same remark may be applied to partially dislocated lenses, and to lenses floating in the vitreous, but attached at one point to the ciliary processes. The writer believes it possible in many cases, perhaps in the great majority, to extract the lens by external pressure, and to confine the use of instruments to assisting in the removal of the lens after it has presented in the wound, or at least in the field of the pupil. Of course, in each case the possible difficulties are an unknown quantity, and the blunt hook, the delicate wire spoon, or the broad silver spoon should be ready at hand to use in case of necessity.

The manipulation which the writer has found useful in this operation may be described as follows: The eyelids are held open by the ordinary wire speculum, and the corneal section is made upward with the narrow knife, the ends of the incision being in the limbus, and the apex in clear cornea, just below the limbus. The speculum is then removed, and the upper lid is lifted up and away from the eyeball by the finger of an assistant, or, better, by a wire elevator held by an assistant. Pressure is then made upon the lower part of the eyeball with the thumb or finger of the operator, by pressing the lower lid against the eye directly backward. Almost immediately the lens will be seen to rise and appear in the field of the pupil, and, in not a few instances, comes partially through the pupil and engages in the wound. Sometimes the assistance of a blunt hook or the wire spoon becomes necessary to complete the removal of the lens at this stage of the operation. If continued pressure backward fails to push the lens through the pupil, or causes a prolapse of the vitreous, it should be discontinued, and the lens removed at once by hook or spoon. It is surprising to see how often a dislocated lens is removed by this simple pressure backward, without the introduction of any instrument into the eye. If a criticism may be passed upon the use of the bident by one who has never used it, it would seem to the writer that the objections to its use raised by Dr. Knapp are just. The sclerotic and ciliary regions are pierced in four places by the teeth of the bident, and after the lens is extracted, both aqueous and vitreous chambers being open, this instrument must then be withdrawn. Another objection to its use is that it decidedly complicates the operation by adding one more to the number of instruments necessary for it, and by the introduction of this instrument inside the eye, where it must remain until the lens has been extracted.

Case I.—Patrick McD., aged seventy-five, June 3, 1878. Has had gradually failing vision in both eyes for several years. One month ago he received a severe blow on the left eye and lost the sight in this eye at once, and since then has had only perception of light. There have been occasional attacks of pain.

R. E., $\frac{20}{70}$; partial opacity of the lens; sluggish iris; senile degenerative chorioiditis.

L. E., V. = perception of light; pupil irregularly dilated and immovable; iris discolored and fluttering; lens dislocated downward into the vitreous, entirely opaque and floating free. T. + 1.

It was determined to attempt the removal of the dislocated

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lens. This was before the days of cocaine, and the patient declined to take ether. The patient was placed on his back in bed, and a wire speculum was introduced to hold the lids open. The eye and *cul-de-sac* were carefully washed with a warm saturated solution of boric acid. The eyeball was then steadied by fixation forceps, and an upper corneal section made with a narrow Graefe knife, the ends of the section being in the limbus and the apex in clear cornea. The speculum was then removed, in the course of which the lens presented in the pupil, which was a fortunate accident. A blunt hook was then carefully introduced through the corneal wound, hugging the upper segment of the iris, and passed slowly behind the upper presenting margin of the lens. By a sudden delicate twist the blunt point of the hook penetrated the lens capsule, and the lens was at once lifted through the pupil and corneal wound and removed from the eye, followed by a small amount of vitreous. The cornea at once collapsed, and, as a consequence, the wound gaped. Atropine was instilled and a bandage carefully applied. Much of the success of this operation was due to the extraordinary self-control of the patient, who lay perfectly still, with an immovable eye, until all was over. The eye was dressed daily, but the wound remained open for a long time, and did not entirely close for nearly a month. The iris, which had partially prolapsed at the time of the passage of the lens through the wound, replaced itself and gave no further trouble. There was no improvement of vision in the left eye, probably owing to the effects of the contusion. This patient subsequently underwent an operation for extraction of cataract in the right eye three years later, and recovered useful vision of $\frac{20}{70}$.

CASE II.—Henry H., aged sixty-five, December 16, 1878. Twenty years before, this patient had received a violent blow on the *right* eye, which caused complete dislocation of the lens into the vitreous. The blow destroyed the sight at once, and nothing more than perception of light has ever been regained. Attacks of intra-ocular irritation have appeared at irregular intervals, but subsided after a few days of treatment. Two weeks ago an unusually severe attack began, and has continued ever since, with much pain.

R. E., perception of light. Signs of ciliary irritation, with injection of the eye and photophobia. Large, opaque lens floating in the vitreous.

L. E., $\frac{10}{200}$; cataract; field and projection normal.

This patient was etherized, a speculum was introduced, and the eye and *cul-de-sac* were carefully irrigated with a saturated solution of boric acid. The eye was then held by fixation forceps and an upward corneal section made with a narrow knife, entirely in the limbus. The speculum was then removed and an attempt made by pressure on the eyeball through the lower lid to bring the lens into the pupil. This partially succeeded, but vitreous presented in the wound before the lens. A wire spoon was then introduced through the wound and through the pupil into the vitreous behind the partially presenting lens, and at the first attempt the lens was extracted intact in its capsule. Very little vitreous was lost in the operation. The prolapsed iris was stroked into place in the anterior chamber with a spatula, a drop of eserine was introduced, and the eye was carefully bandaged. This patient was operated upon while lying on his back in bed. The eye made an excellent recovery, and the signs of ciliary irritation soon subsided.

CASE III.—Jane K., aged twenty-three, October 6, 1880. Patient has had defective vision from birth, with nystagmus and great intolerance of light. Repeated attacks of inflammation in both eyes. For the past two months the right eye has been extremely painful and continually inflamed.

R. E., $\frac{1}{200}$. Hazy cornea, with numerous depressions from old ulcers. Congenital aniridia. Lens dislocated downward and inward into the vitreous, but still attached by two bands to the ciliary processes downward and inward, the remains of the suspensory ligament. Lens opaque.

L. E., $\frac{5}{200}$; congenital aniridia; opacities in lens and capsule; no dislocation of lens. Owing to the dangerously inflamed condition of the right eye, the patient was advised to have an enucleation done, but this she refused, and it was then decided to attempt the removal of the lens. The patient was etherized and an upward corneal section was made, the ends being in the limbus and the apex in clear cornea. Much to my surprise, the lens presented at once in the wound, accompanied by a little vitreous, and was readily removed by the wire spoon, with a slight loss of vitreous. The eye and lids were then carefully and gently irrigated with a solution of mercuric bichloride (1 to 5,000) and an antiseptic bandage was applied. This bandage was left undisturbed for three days and was then removed. The lids looked well and there was no discharge of any kind, so the eye was not opened, and the bandage was reapplied and left on for forty-eight hours longer. At the end of this period it was removed, the eye was examined, and the corneal wound was found entirely closed. There was still considerable ciliary injection and irritation, which was treated by atropine and dark glasses and soon subsided. At no time was there any irritation of the fellow eye.

CASE IV.—James B., aged sixty-eight, January 28, 1884. Patient has had failing vision in both eyes for some years. Three months before he had received a violent blow on the right eye from a potato, which for the time completely abolished the vision in this eye. After about a week he began to regain the sight, and it has steadily improved since.

R. E., $\frac{1}{200}$, with sph. + D. 12 = $\frac{20}{40}$; widely dilated pupil; lens opaque and floating freely at the bottom of the vitreous; tension + 1.

L. E., $\frac{20}{200}$; cataract.

On February 13th it was decided to attempt the removal of the lens, which remained in the vitreous and could not be induced to fall into the anterior chamber by any position or manœuvre. The patient refused to be anæsthetized, and the operation was performed while he was seated in a chair. The eyeball was opened by a corneal section upward, the apex in clear cornea, and made with a narrow knife. Pressure was then made upon the lower portion of the eyeball with the thumb and index finger alternately through the lower lid directly backward. This caused a lifting upward and forward of the lens, and at the same time caused a slight gaping of the lips of the wound. As this pressure was continued its direction was changed from backward to backward and upward, and as the lens rose and came forward through the pupil, a blunt hook was introduced through the lips of the wound, engaged in the lens, and the latter was lifted out in its capsule without the slightest difficulty. It was followed by some fluid vitreous. The cornea collapsed, but there was no pain complained of by the patient. The usual antiseptic dressings and bandage were applied and remained unchanged for two days. The case did well, there being no adverse symptoms, but the wound healed very slowly, and it was nearly a month before the anterior chamber was established. The ultimate vision in this eye was $\frac{20}{50}$, with sph. + D. 12.

CASE V.—Margaret W., aged twenty-two, May 5, 1884. Patient was struck a violent blow with a fist on the left eye six days before, and vision was lost at once. Since then there has been at times severe pain.

R. E., $\frac{20}{20}$.

L. E., perception of light; small amount of blood in anterior chamber; iridodonesis; traumatic iridochorioiditis; lens dislocated downward and backward into the vitreous; blood in the vitreous; tension + 2.

On May 28th all the blood was gone from the anterior chamber, and most of the signs of acute inflammation had subsided under the influence of cold applications and atropine. But the tension remained above normal and there was at times considerable pain, and the removal of the lens was deemed advisable. The patient was operated upon on her back in bed, the ncision being the usual corneal section upward made with the narrow knife, the apex being in clear cornea. A small bead of vitreous presented in the wound on the withdrawal of the knife, and the speculum was removed at once and the lids closed. After a lapse of five minutes the lids were opened and the upper lid raised by a wire elevator. Gentle pressure directly backward was then made on the lower portion of the eyeball through the lower lid, and this soon brought the lens into the ield of the pupil; but any attempt to force it through the pupil oward the wound increased the prolapse of the vitreous. The elevator was then given to an assistant to hold, and a wire spoon was introduced through the wound, then through the pupil and behind the presenting upper margin of the lens, and he latter was then easily removed without any further loss of vitreous. The eyeball and *cul-de-sac* were gently irrigated, and he lids closed under the usual antiseptic dressings. The case did extremely well, no unusual reaction of any kind occurred, and the patient was discharged at the end of the third week with a perfectly quiet, unirritated eye. The vision, however, was not improved.

Case VI.—Moses G., aged forty-five, June 22, 1885. Patient has always been very myopic. He lost the sight in the left eye ixteen years before by a blow from a stick, and the eye was inamed and painful for several months after the injury. Since hen there have been repeated attacks of inflammation in the eft eye, the present one having begun one week ago, and the ight of the fellow eye has steadily failed.

R. E., fingers at six feet; myopia; cataract.

L. E., perception of light. Lens opaque, dislocated downward and backward completely, and floating freely in the itreous. Divergent squint; marked ciliary injection; tenion + 1.

The patient was advised to have the eye enucleated, but ositively refused to allow it. It was then proposed to him hat an attempt should be made to remove the lens, and to this e consented. Owing to the existence of pronounced valvular nd hypertrophic disease of the heart, it was thought unwise to dminister any anæsthetic, and the operation was done with he patient seated in the operating chair. The usual upward ection was made in the cornea, the apex being in clear cornea. he iris prolapsed at once, and this apparently prevented proapse of the vitreous. Owing to the complete disorganization f the vitreous, it would seem as if any pressure from below would cause extensive prolapse of the fluid vitreous. The proapsed iris was therefore carefully replaced, and a wire spoon was then gently introduced through the wound and pupil and ehind the lens. Slight pressure backward against the lower art of the eyeball brought the lens into the hollow of the spoon, nd it was then readily removed, followed by a prolapse of the ris. Gentle irrigation of the iris and eyeball was then done; he iris was replaced, and a pressure bandage applied for twentyour hours. The ciliary irritation and injection in this case remained for nineteen days without any visible improvement, fter which date the case healed in the usual manner, but with ncarceration of the iris. There was, of course, no improvement in vision.

Case VII.—Francis E. R., aged twenty-three, November 2, 885. Patient had lost the sight of the right eye twelve years before by a blow from a ball, but since then it had given him no trouble, except for the cosmetic defect. He had been advised to have the eye removed, but his father was unwilling to permit it. At times the opaque, dense white lens would appear in the pupil and caused an unsightly appearance.

R. E., perception of light; cornea somewhat cloudy; iridodonesis. Lens opaque, dense white in color, and floating in the clear vitreous, but attached at one point downward and outward to the ciliary processes. Tension normal; no irritation.

L. E., $\frac{20}{20}$; normal in every respect.

The operation was done on the patient while seated in the operating chair. The usual upward corneal section was made with the narrow knife, the apex in clear cornea. The speculum was then removed and the upper lid lifted away from the eye by a wire elevator. Pressure was then made with the index finger through the lower lid on the lower part of the eyeball, directly backward, and the lens at once rose and came forward into the pupillary area. As the pressure backward was continued, the point of adhesion downward and outward ruptured, and the lens at once came almost entirely out of the corneal wound and was received in a small silver spoon. The iris, of course, prolapsed, and several drops of vitreous followed. The iris was then replaced and the eye antiseptically treated and bandaged. There was no reaction and the wound healed in three days throughout, without any prolapse or incarceration of the iris. The loss of vision, of course, remained unchanged.

Case VIII.—Nicholas E., aged fifty-six, February 18, 1886. Patient was struck in the right eye by a ball three weeks before.

R. E., $\frac{9}{200}$; irregular and immovable pupil. Partial dislocation of the lens upward and inward; lens entirely opaque; zonule only partially ruptured; iridodonesis.

L. E., $\frac{20}{100}$; senile chorioiditis and beginning cataract.

The irritation caused by the blow was still intense, and, as the lens was entirely opaque and partially displaced, it was decided to remove it. An upward section was made entirely in the limbus, and then an iridectomy was made upward in the usual manner. The pressure made upon the eyeball by the fixation forceps had caused a partial rotation of the displaced lens upon its vertical axis, and it was thought that it might be removed in its capsule. A small wire spoon was introduced through the wound and coloboma of the iris on the temporal side of the lens, a slight lifting motion brought the lens away in its capsule, and it was removed from the eye without the loss of any vitreous. This may be considered a fortunate termination to a rather dangerous operation. The ultimate vision was somewhat improved, having risen from $\frac{9}{200}$ to $\frac{20}{200}$.

Case IX.—Mrs. Catharine S., aged forty-four, July 12, 1886. This patient was struck on the right eye four days before by a piece of wood, and had lost her sight at once. She had had failing vision in both eyes for some years.

R. E., fingers at six inches. Iridodonesis; blood in anterior chamber and vitreous; lens opaque and dislocated into the vitreous.

L. E., $\frac{20}{200}$; old chorioiditis and opacities in lens and vitreous.

Nearly three months later the right eye was still injected and painful, and, as she refused to have an enucleation done, it was thought best to remove the lens.

October 11th.—The usual upward corneal section was made, but, owing to the ciliary injection, an iridectomy was not done, on account of the possible profuse hæmorrhage. Pressure upon the lower portion of the eye directly backward threw the lens at once into the pupil, and at the same time caused prolapse of the iris and the loss of some fluid vitreous. As the pressure, however, kept the lens presenting in the pupil, a blunt hook was introduced through the wound and behind the lens, thrust into the lens, and the latter was then readily removed in its capsule, without any more vitreous being lost. The iris was then replaced and the eye dressed and bandaged in the usual way. The irritation and injection began to subside on the fifth day, and the patient was discharged on the thirty-first day, with a sound central pupil and vision $\frac{20}{200}$, with some prospect of still further improvement.

CASE X.—John S., aged twenty-seven, February 7, 1887. This patient was struck on his left eye three years before by a clod of earth and lost his sight at once. The eye was inflamed and painful for nearly two months, but since then has given him no trouble.

R. E., $\frac{20}{30}$ + ; faint corneal macula.

L. E., V. = 0. Tension — 1. Discolored and fluttering iris; pupil central; lens opaque and floating freely in vitreous, attached by a single narrow band downward to the ciliary processes.

March 4, 1887.—The usual upward corneal section was made, the patient being seated in the operating chair. As the knife completed the section and the aqueous escaped, the lens presented in the pupil, the upper margin nearly touching the cornea. A blunt hook was at once introduced, engaged in the lens, and the latter was removed in its capsule without the slightest difficulty. The prolapsed iris replaced itself at once, and not a single untoward symptom appeared in the course of the case, the patient being discharged on the fifteenth day.

CASE XI.—Daniel F., aged sixty-four, April 4, 1887. This patient was struck one month ago on the right side of the nose and superior orbital margin of the right eye with a stone. The right eye became inflamed at once and has remained so ever since, with frequent attacks of very severe pain.

R. E., $\frac{3}{200}$; marked ciliary injection; tension + 1; iris dilated and discolored; very shallow anterior chamber; lens opaque and dislocated into the vitreous; condition glaucomatous.

L. E., $\frac{20}{20}$; slight opacity at periphery of lens; normal fundus.

April 6th.—Operation for removal of the lens. Corneal section upward entirely in limbus. Broad iridectomy upward, followed by profuse hæmorrhage, which filled the anterior chamber and checked the further steps of the operation for a time. After the hæmorrhage had been stopped by cold applications and part of the blood had been removed from the anterior chamber, the lens was found tilted forward, its upper margin lying in the pupil and resting against the cornea. It was at once removed in its capsule with a small spoon and with no loss of vitreous. The healing process in this case was very slow, and, although the wound was clean and there was no prolapse of the vitreous, the wound did not close for nearly three weeks. Vision improved somewhat, having risen to $\frac{10}{200}$.

CASE XII.—Frederick G., aged fifty-six, February 19, 1888. This patient received a blow on the right eye from a hard rubber ball in October, 1887, and lost the sight of this eye at once. The sight of the other eye had previously markedly failed from the growth of a cataract.

R. E., perception of light; iridodonesis; lens dislocated entirely into the vitreous and lay tilted forward, its upper margin resting on the iris and just appearing at the pupillary edge; eye quiet; tension normal.

L. E., $\frac{20}{200}$; cataract.

February 24th.—The patient was seated in the operating chair and the usual upward corneal section made, the apex in clear cornea. There being no prolapse of the vitreous, a delicate blunt hook was introduced through the wound, passed through the pupil and behind the lens, and by a single twist penetrated the capsule and caught the lens. The lens was then drawn through the pupil and out of the lips of the wound, inclosed in its capsule, and without any loss of vitreous. The wound healed readily under the usual antiseptic dressings, and without either prolapse or incarceration of the iris. There was no improvement of the vision, and the vitreous remained cloudy as long as the patient was under observation.

CASE XIII.—Mary O'B., aged thirty, February 25, 1889. Patient was struck on the right eye six months ago by a blow from a fist and lost the sight at once. She had always been quite myopic, but had never worn glasses.

R. E., perception of light; pupil irregularly oval in shape and displaced inward toward the nose; iridodonesis; lens dislocated downward into the vitreous; tags of broken adhesions on the posterior surface of sphincter margin of iris; floating opacities in vitreous; tension normal.

L. E., $\frac{20}{200}$, with sph. — D. 2·50 = $\frac{20}{70}$; large annular posterior staphyloma and patches of chorio-retinitis disseminata.

An upward corneal section was made, the apex in clear cornea. The speculum was then withdrawn and the upper lid held away from the eye by an elevator. Pressure was then made on the lower part of the sclera directly backward by the finger against the lower lid. The iris prolapsed at once, and the lens appeared in the field of the pupil. Every attempt at further pressure caused prolapse of the vitreous without advancing the lens in the slightest degree, and this method was therefore abandoned. Keeping the lens in the field of the pupil by moderate pressure below, a delicate wire spoon was introduced through the corneal wound and behind the plane of the iris, gently insinuated behind the lens, and then withdrawn, bringing the lens in its capsule with it. The iris was then replaced and a drop of a solution of eserine was instilled, and the eye dressed and bandaged in the usual way. There was but little vitreous lost, and the eye healed with very little reaction, but with a rather extensive incarceration of iris in the inner lips of the wound. There was no improvement in vision.

TWO CASES OF NASAL HYDRORRHŒA.*

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CASE I.—Mary S., aged forty-three, German, married, has one child, aged fourteen, healthy. Until nine years ago, when she came to America, she had always enjoyed good health. After living for two weeks in a basement, in February, 1881, she developed a cough, which became asthmatic some time between March and July. She had had occasional attacks of asthma ever since, particularly in cold, damp weather. In July she received what her medical attendant told her was a sunstroke, which confined her to bed for some time. Some pills prescribed caused a buzzing in the ears with deafness for several days (quinine?), and during the severe headaches, usually vertical, from which she has suffered at intervals since that time the deafness occasionally recurs. In August or September, 1881, a watery discharge from the nose commenced, the conjunctiva being reddened and lacrymation profuse at the same time. The discharge lasted for three or four days, stopped for a month, came on again for a few days, and again intermitted. Similar periods of discharge and absence of discharge alternated continuously until about two years and a half ago, since which time the discharge has occurred daily, usually for three or four hours in the morning. The patient reports that it begins just as soon as she rises in the morning, whether that be at 4.30 or 6.30. Excepting on one or two occasions, no discharge has been noticed at night. She can not remember whether the discharge occurred on days on which she was confined to bed. Has never attempted to stop the discharge by lying down in the morning after the commencement of the flow. As a usual thing the fluid comes from both nostrils (sometimes from one), and drop by drop. Shortly before stopping for the day the clear water, whitish and opalescent when in quantity, becomes thicker and viscid, resembling ordinary mucus. Sneezing and formication are somewhat frequent accompaniments of the discharge, but they are by no means constant, nor does the formication appear to precede the discharge, as one might expect. It quite as frequently follows. The patient avers that this symptom has been more annoying since treatment was begun. While the asthma is ordinarily troublesome only in cold and damp weather, she is not sure that the hydrorrhœa is appreciably influenced by matters meteorological. Has not noticed that it is worse on damp days. Thinks it is as bad in July as in November. It varies in amount from time to time, but without reason, so far as the patient could determine.

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* Read before the Chicago Medical Society, July 7, 1890.

History since coming under Observation.—In October, 1889, "could not see to sew," and attended Dr. Coleman's eye clinic, where glasses were prescribed. She was then referred to me. Examination of her nose showed slight posterior hypertrophy of the right inferior turbinated and a dropsical condition of the middle turbinated bodies right and left. Ridge on septum high up on left side. No polypi. Sense of smell unimpaired. No marked departure from normal sensibility of nasal mucous membrane as tested by probe. Satisfactory posterior rhinoscopic view not obtainable, tongue depressor causing gagging. Patient says this is produced by holding anything (*e. g.*, candy) in the mouth for a minute even, but she has no such sensation when masticating and eating ordinary food.

General health not very good. Burning pain in epigastrium after eating not infrequent. Painful and hyperæsthetic spot over the left eighth rib in front, which first became painful five years ago. No neuralgias. Is being treated in gynæcological clinic for laceration of the cervix. The patient has been treated during the past ten years by a sufficient number of regular practitioners and quacks, but without marked benefit. The removal by snare of portions of the middle turbinated bodies, with the internal administration of zinc oxide (gr. ½) and belladonna extract (gr. ¼), markedly diminished the flow for a time. Treatment was begun on the 10th of April, with good results until the 6th of May, when a day and night discharge commenced. This lasted until the 9th of May, the patient getting but little sleep in the interval. The nasal discharge was accompanied by a flow from the eyes and a severe headache. On the 10th and 11th of May she had asthma; there was no discharge or headache. She was then almost free from any unpleasant symptoms until the 3d of June, since which time she has had an almost daily recurrence of the discharge until the present time (7th of July), with asthma and headache from time to time. Patient's attendance has been very irregular since the beginning of June.

In view of the not infrequent association of optic-nerve atrophy with nasal hydrorrhœa (seven cases are recorded), a careful examination of the eyes was made at my request by Dr. Casey Wood, whose report is appended.

The fluid had a specific gravity of 1·006, contained chlorides, traces of mucin, a few cells from the olfactory region, and an occasional flat epithelial cell. It was feebly alkaline in reaction.

Case II.—I am indebted to Dr. Lackner for the discovery of the case whose history I shall now give.

Mrs. K. K., German, aged forty-two, married, two children, gave a history of profuse watery discharge from the nose which has lasted for ten years. Six months before the discharge began the patient suffered from "malaria" when living in a basement tenement. The flow was at the beginning not very profuse, but in a short time was troublesome throughout the day and frequently all night as well. She was often wakened by it, and it was occasionally so profuse as to prevent sleep altogether. The intermissions have been rare and of short duration. Patient asserts that the dropping has never ceased for twenty-four hours during the ten years, the amount of the discharge being about the same summer and winter. Upper lip swollen and excoriated. Watery discharge from eyes with occasional conjunctival injection. Fundus normal, no optic-nerve atrophy, and no contraction of visual fields. Dr. Wood kindly made the examination of the eyes in this case also. A troublesome and prominent symptom was sneezing, "forty or fifty times a day" being the usual thing. Unfortunately, the fluid was not examined, the discharge ceasing before the patient followed instructions in the matter of collecting it. The patient does not know the amount of the daily discharge, as she never collected it, but the constant dropping interfered very much with her work. Examination of the nose showed polypi right and left, and polypoid thickening of both middle turbinated bodies.

Treatment was begun February 25th. Polypi removed.

March 8th.—Marked lessening of discharge reported. Remaining polypi removed.

12th.—Discharge very slight. No sneezing.

May 6th.—The same. Hypertrophy of right middle turbinated snared.

17th.—No discharge. No sneezing. Snaring left middle turbinated. Patient reported absence of nasal symptoms on May 22d, June 5th, 12th, and 19th. To report again in one month.

The chief interest in the discussion of hydrorrhœa centers in its ætiology and in the fact of the occasional presence of marked eye complications. The literature of the subject is by no means extensive; about twenty-five cases are reported, and, as in a number of instances for some reason or other an examination of the nose was not made, it is perhaps hardly possible as yet to formulate a theory applicable to all cases. In fact, a perusal of the histories of cases in which a continuous discharge of water from the nose was a symptom will compel one to conclude that it may, like atrophy of the optic nerve, be produced by a great many different conditions. One was evidently due to fracture of the base of the skull (Vicusse's case[*]); it is an occasional accompaniment of general anasarca (Rees[†]); of meningitis (Paget[‡]); of trifacial paralysis (Althaus[#]); of hydrocephalus internus (Leber,[‖] who thought there had been bone absorption from pressure with escape of the cerebro-spinal fluid from the opening thus formed); while in some cases (Priestley Smith's,[*] Nettleship's[†]) the brain symptoms appear to have been very marked. In two cases, on the other hand, reported by Bosworth,[‡] to whose valuable paper on the subject I have to acknowledge my indebtedness, there was at the beginning apparently no visible nasal or other disease, and, presuming the examinations to have been accurate, the affection can not very well have been anything but a paresis of the sympathetic vaso-motor nerves, as Bosworth concludes. A somewhat novel idea as to the ætiology of this affection has been suggested by Mules,[#] who reports three cases in support of his theory that "the dropping is due to overdistended lymph vessels of the pituitary membrane, which by their bursting cause fistulous openings." Briefly they were: 1. A girl who suffered from a discharge of fluid from the umbilicus for six months; no fistula, this discharge being followed by a similar flow for four weeks from under right upper eyelid at frequent, though irregular, intervals during day and night. Stimulation of the lacrymal gland produced no effect. 2. A boy who had congenital lympho-angeioma of conjunctiva. 3. A woman in whom a lympho-angeioma just inside sphincter ani caused diarrhœa, which alternated with watery discharge from fistulous openings in tumor. In six weeks after ligation of the tumor an apoplectoid attack occurred which caused permanent paresis of one side.

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[*] *Gaz. hebd.*, 1879, No. 19, p. 298.

[†] *London Med. and Surg. Journal*, 1834, vol. iv, p. 823.

[‡] *Transactions of the Clinical Society of London*, 1879, p. 43.

[#] *British Medical Journal*, 1878, vol. ii, p. 831.

[‖] Graefe's *Archiv*, vol. xxix, i, 273.

We have not far to look to see Mules's explanation of the discharge from eye and nose, but are as far as ever from knowing the cause of the enlarged lymph tubes. As a corollary to his theory, Mules concludes that the coexistence of optic-nerve atrophy with an abnormal watery secretion from eye and nose is merely a coincidence. He explains the occurrence of the atrophy by suggesting that it may sometimes be due to the wasting character of the general disease, of which it and hydrorrhœa happen to be symptoms. In some cases of hydrorrhœa there is no atrophy, just as in other cases of atrophy there is no hydrorrhœa. Before, however, any conclusion can be arrived at respecting Mules's theory, more exact knowledge with regard to the distribution of the nasal lymphatic system is required. In my opinion the affection is, with few exceptions, immediately dependent upon a vaso-motor paresis, however that may be brought about. For this Bosworth has made out a good case. With some of his conclusions, however, it is difficult to coincide. I fail to see, for example, why the general resemblance of nasal hydrorrhœa in many particulars to hay fever should lead us to assert an atmospheric factor in its causation. In my first case the appearance of the interior of the nose would have been consistent with the hypothesis that there was a distention of the mucous membrane by lymph, or that we had to do with a lymph-angeioma. The fluid could be seen to ooze from the mucous membrane of the upper part of the septum, and from the swollen opalescent middle turbinated body opposite. The discharge did not come from a polypus, so far, at any rate, as concerned that oozing from the septum; nor was the opalescent polypoid-looking middle turbinated a polypus. It became much smaller upon use of cocaine and pressure with a probe. The theory that the discharge is invariably connected with polypi has been several times shown to be incorrect. Cerebral symptoms likewise are frequently absent, as in Case II.

An interesting occasional accompaniment is asthma, as in Case I. So far as I have seen, it has not been noted as a complication of other cases of nasal hydrorrhœa, but the frequency of its association with hay fever, and the general resemblance between the latter and such apparently uncomplicated cases of nasal hydrorrhœa as the two reported by Bosworth, would at any rate prevent our surprise at such a complication. It will be noticed that the patient reports that the asthma had troubled her chiefly during the winter months, and that its onset did not, so far as she had noticed, affect the nasal discharge. My notes of the case since it came under my observation do not exactly corroborate the patient's statement; for instance, during the latter half of April the discharge was very slight and asthma absent, although headache was, perhaps, worse than usual during a part of the time, but on May 6th (when the discharge had been absent for ten days) began one of the worst of her attacks, which was accompanied by headache. This gave way on the 10th and 11th of May to asthma; then, on the 12th to the 15th of May, a very slight discharge occurred in the mornings, followed again on the 16th by slight asthmatic attacks. After that, as reported before, there was absence of both unpleasant symptoms until the 3d of June. There was then apparently an alternation between the attacks of hydrorrhœa and of asthma, but as this does not correspond exactly with the patient's recollection of the previous course of the disease, and as the number of the observations is so small, I shall merely record the fact without further comment. I may say that I have in the present history neglected to discuss the relation which the so-called neurotic temperament bears to the disease. One reason for my omission may be found in the following facts: (1) Case I was that of an individual who would nowadays be denominated neurotic; (2) Case II would not in my opinion be so named. The deduction is obvious.

While the presence of asthma was perhaps the most noteworthy feature of the first case, the second is worthy of record for a different reason. In it we had the two facts (1) that polypi were present along with the discharge, which is by no means unusual; and (2) that treatment directed to the removal of these polypi, and of those portions of the middle turbinated in which there was polypoid degeneration, was efficient in stopping the discharge, and that, too, in cold and wet weather—a very unusual termination to a long-standing case of nasal hydrorrhœa.

I think we may conclude, from a careful reading of the cases recorded, that nasal hydrorrhœa is not a disease *per se*, but a symptom of many pathological lesions, and that the prognosis and treatment of each case must be determined by conditions aside in the majority of instances from the mere fact that there is a flow of water from the nose.

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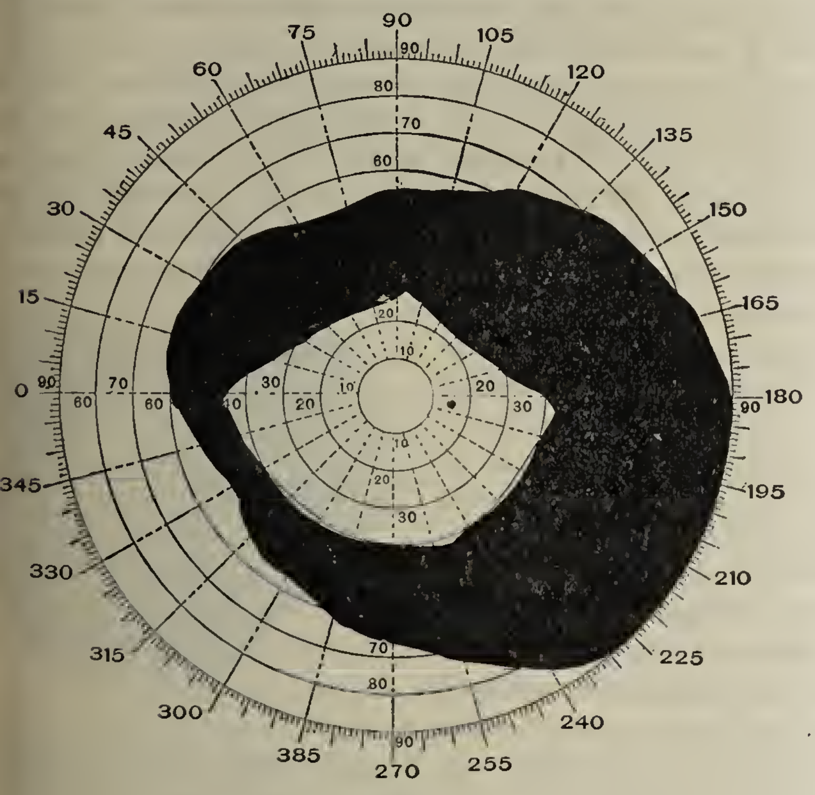
[*] *Ophthalmic Review*, London, vol. ii, p. 4.

[†] *Ibid.*, p. 1.

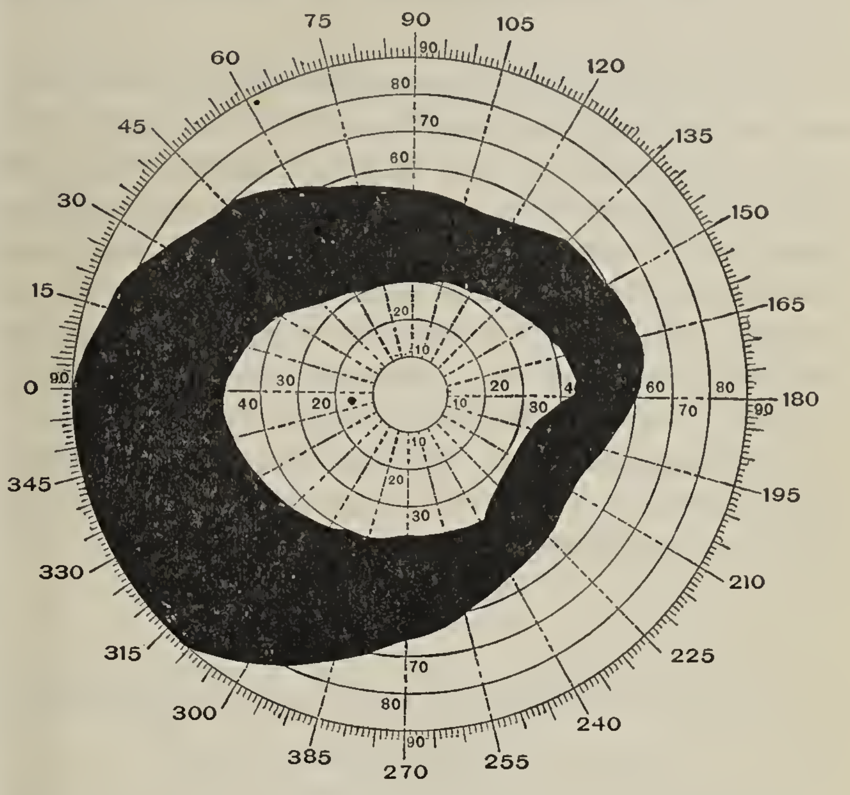
[‡] *Treatise on Diseases of the Nose and Throat*, New York, 1889, vol. i, pp. 261, 262.

[#] *Transactions of the Ophthalmic Congress*, Heidelberg, 1888.

M. S. has complained of weakness of sight, chiefly during the past eight months. Last November glasses were prescribed for her, which, however, she did not think enabled her to see any better. She suffers from bilateral epiphora, which is usually, though not always, worse in the morning. It then amounts to a continual flow from both eyes of a fluid resembling tears, and, generally speaking, is worse when the discharge from the nose is worse. During the daytime, also, when the nasal flow is lessened or stops altogether, there is very little lacrymation. The flow of tears has never produced excoriation of the lids. In November last V. R. = $\frac{15}{200}$; V. L. = $\frac{15}{40}$. She was then wearing R. + 3 D., and L. + 1·75 D., which on trial were found not to improve the visual acuity. Both adduction and abduction were weak, the former showing at one trial a strength of 4°, at another 8°. The interni muscles could overcome a prism of 19°–23° only. At that time she complained of photophobia, and of dark spots in front of her eyes—in front of the right eye especially—and she thinks that for a time at least she was so blind that she could barely discern large objects. Then, for a while, her vision improved, but it has never since been normal, nor is it possible by correcting her refractive error (compound hyperopic astigmatism) to greatly improve the visual acuity. The conjunctivæ, both ocular and palpebral, are injected, but there is no purulent or muco-purulent secretion from the lids, and they do not adhere in the mornings. The last examination made shows a marked improvement (in the right eye particularly), as V. R. = $\frac{20}{40}$, and V. L. = $\frac{30}{40}$, both with correction. The *puncta lacrimalia* are patent and in normal position. There is no affection of either lacrymal sac, and no indication of obstruction of the nasal duct. The ocular excursions are of normal extent on both sides and in all directions. Pupils are both active to light and accommodation. Tension normal in both eyes. The patient does not now complain of scotomata, only of weakness of vision and of inability to read or to do near work with comfort. These, and the other ocular symptoms, have not to any appreciable degree been relieved by atropine or by a full correction of her refractive error. A further examination of the case reveals the fact that she is not color-blind, and that she has no color scotomata. Both fields of vision for white, taken by means of a McHardy perimeter with a 5 mm. square object, are shown in the charts. These charts were carefully worked out several times, and the contractions were found to be fairly regular and symmetrical. This regularity is especially seen in the left eye, as the right field is more restricted toward the nasal side than was found to be the case in the left eye. The field for red is correspondingly limited in both eyes.



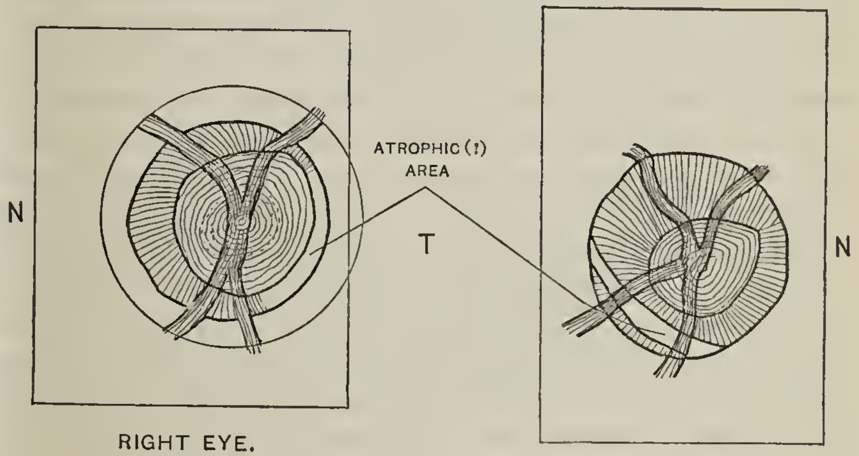
RIGHT EYE.



LEFT EYE.

The fundus appearances are interesting, although there is nothing abnormal outside of the papillæ. The *right disc* is deeply and centrally excavated, and the blood-vessels come forward in a normal manner, but the whole papilla is very slightly paler than it should be. On the nasal border of the nerve there is a narrow, yellowish-white band, forming in that situation the rim of the physiological cup, and occupying about one third of its circumference. A somewhat similar appearance is to be seen in the *left disc*. Here there is no general pallor, and the normal cupping is shallow. At its bottom, however, the stippling of the cribriform fascia is to be seen. A band, yellowish-white in appearance, longer than but quite as narrow as that visible in the right disc, occupies the lower outer aspect of the left papilla. It does not extend, as in the former case, to the edge of the excavation toward the nerve center, nor does it reach in part of its course the outer rim of the disc. I have endeavored to illustrate this condition of things by the above rough diagrams.

DIAGRAMS OF OPTIC DISCS.



RIGHT EYE.

LEFT EYE.

I have seen a number of similar whitish areas in papillæ of eyes otherwise normal which were not accompanied by deterioration of vision or contraction of the field of vision, and I consequently hesitate to regard this picture as evidence of atrophic changes, however limited, of the optic nerve itself, and yet they are certainly not the pale spots on the surface of the disc which one sometimes sees due to variations in the light reflex from an uneven papillary surface.

Whether the limited decolorization of the discs is evidence of a retro-bulbar neuritic process it would be difficult to say. The history of an attack, occurring six months before and accompanied by absolute central scotomata and great loss of visual acuity, certainly points in that direction, but, in the absence of more positive proof, one can not very well decide. If such has been the case, it is not easy to say why, with some remaining impairment of vision, there are no central scotomata, not even for colors.

Notwithstanding all treatment, the ocular symptoms since the date of writing the foregoing, the epiphora especially, are as pronounced as ever.

A CASE OF MYXOMA OF THE EPIGLOTTIS.*

By S. O. VANDER POEL, M. D.

The rarity with which myxomata present themselves in the neighborhood of the larynx, and the fact that but few cases have been placed on record, have induced me to bring before you for consideration the study of this form of benign growth, and the recital of a case which has recently come under my observation.

The patient, a German, fifty-four years of age, by occupation a blacksmith, was perfectly well until seven months ago, when he began to notice failing strength and loss of flesh. Some weeks later his throat commenced to annoy him; there was difficulty in deglutition, with the sensation of a foreign body in the throat. As he expressed it, "an obstruction to the passage of food, and a tendency for it to go the wrong way." At no time was any actual pain complained of. Talking was an effort and was carried on with fatigue, amounting at times to actual distress. Only occasionally was there hoarseness, and then after prolonged use of the voice. It then might more properly be described as a feeble whisper which it was difficult to understand. Occasionally the peculiar staccato inflection was noticeable. At night there were suffocative attacks, when he would awaken suddenly from his sleep with the feeling of great apprehension and the sensation of strangling. Of late these attacks have been more frequent, and would seem to be produced by some mechanical obstruction to the entrance of air. When he first came under observation at the Throat Department of the Manhattan Eye and Ear Hospital on the 17th of March last he was emaciated, and, from a large and powerful man, had become a weakly invalid, who walked with effort and apparent distress. This condition he ascribed to the small amount of nourishment he had been able to take of late, as he could swallow but liquid food, and that in small quantities. A harassing cough had been present for some months, and considerable difficulty was experienced in expectorating the mucus which gathered in the throat. He complained of an intermittent pain in the cardiac region. Physical examination disclosed a loud blowing mitral murmur heard over the entire sternum, with dilatation of the left ventricle. The lungs were emphysematous, with evidence of chronic bronchitis. Respirations, 28 to 30; pulse, 90. Rhinoscopic examination revealed some slight hypertrophic rhinitis, the left middle turbinated body being in contact with the septum, together with an ecchondroma of the septum of the right side, but nasal respiration was not materially interfered with. With the laryngeal mirror a tumor of a yellowish-red color, translucent, of about the size of a horse-chestnut, was seen springing from the lingual side of the epiglottis; the surface was glistening, lobulated, and traversed by numerous small vessels. It was attached by a broad base to the glosso-epiglottic fossa of the left side. It occupied so much space in the pharynx and pressed the epiglottis to such an extent that only a small portion of the laryngeal image could be seen. Palpation with the laryngeal probe and finger showed it to be of soft consistency, and imparted the sensation of fluctuation. By elevating the neoplasm, the right free margin of the epiglottis could be distinguished with the finger, but, in passing over to the left border, the free edge of the epiglottis was lost in the growth. From its consistency, color, and general conformation, an epiglottic cyst was diagnosticated, but aspiration failed to withdraw any fluid. It was accordingly decided to remove the growth with the galvano-cautery snare. This was done under cocaine anæsthesia the following day. Twenty-five minutes were occupied in the operation, which was accomplished with little difficulty and no hæmorrhage. It was found to have been attached by a broad base to the entire left lateral half of the lingual side of the epiglottis. It resembled an adenoma, its surface being lobulated and traversed by fine capillary blood-vessels and inclosed in a fibrous capsule. It was submitted for microscopic examination to the pathologist of the hospital, to whom I am indebted for the following report: The capsule inclosing the tumor is about 1 mm. in thickness, and is composed of mucous membrane that in no way differs from the ordinary membrane covering the epiglottis. This envelope, which can be readily stripped from the tumor, is covered by stratified pavement epithelium, the underlying membrane being fibrous tissue of loose texture, containing a network of numerous and wide lymphatics. The mucosa is dense, and projects, in the form of numerous small papillæ, into the epithelium. A network of capillary blood-vessels is distributed in the superficial portion of the mucous membrane. The substance of the tumor proper conforms to the description of hyaline myxomatous tissue. In the hyaline ground substance, which is composed of a fibrillary connective-tissue network of extreme delicacy, are imbedded the characteristic stellate cells, some of which anastomose by their prolongations, while others again are without any processes, being nearly round. Pure myxoma is so uncommon that several sections were made in different portions of the tumor to ascertain if some sarcomatous tissue might not be present. They all, however, presented the same structure as described above. The growth is therefore a pure hyaline myxoma. [Signed: Ira Van Giesen, M. D., Laboratory of the Alumni of the College of Physicians and Surgeons, New York.]

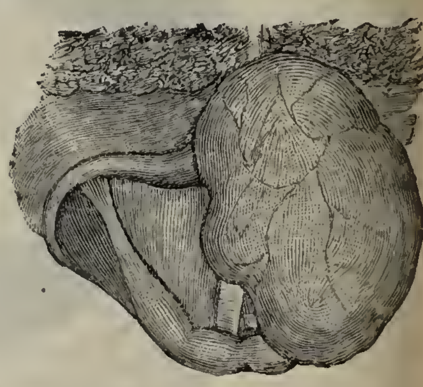


Fig. 1.

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* Read before the American Laryngological Association at its twelfth annual congress.

There were no inflammatory symptoms in the throat following the operation, and in the course of two days the patient could swallow without pain or discomfort. His appetite and strength, however, failed to return, and, there being a lurking suspicion of some malignant trouble elsewhere, he was advised to place himself in the German Hospital, where he came under the care of Dr. Isaac Adler. From the notes taken after his admission to the hospital, we find that several examinations of the blood were made which showed a marked degree of anæmia; in one cubic millimetre of blood there were but 1,000,000 red corpuscles and 400,000 white. The corpuscles were of normal size and shape. The spleen was normal and there were no glandular swellings, except some slight cervical enlargements. In the washings of the stomach after a test meal no hydrochloric acid was found, which tended to confirm the diagnosis of cancer. The urine contained traces of albumin but no casts. After the lapse of several weeks a slight recurrence of the growth on the epiglottis was noticed; it occupied the seat of the original tumor, was slightly elevated above the surface, and of a dark color.

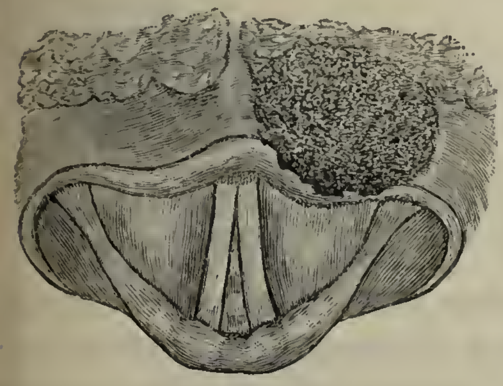
FIG. 2.

The patient gradually sank, and died in the first part of May. On autopsy, all the organs were markedly anæmic; the lungs were found to be emphysematous, with evidences of chronic pleurisy. The heart muscle was anæmic and fatty. Endocarditis existed which had resulted in mitral stenosis, the left ventricle being dilated. Slight parenchymatous nephritis, one kidney being red and the other white. The mucous membrane of the stomach was atrophied and the organ slightly dilated. The liver was somewhat shrunken and anæmic, but otherwise normal. Spleen normal. In no organ was there found any evidence of cancerous disease.

The fatal termination of this case would seem to be only indirectly due to the throat lesion, for, as the growth was surely of a benign nature, it could only have affected the issue by the inanition it caused previous to its removal. The cause of death, then, should be ascribed to pernicious anæmia, as this was undoubtedly present, as is evidenced by the diminution in the number of red corpuscles from 5,000,000, the normal number, to 1,000,000—while the white corpuscles were present in their normal proportion, about 400,000; also by the fatty degeneration of the heart muscle, the endocarditis, and dilatation of the left ventricle, and finally the atrophic changes found in the mucous lining of the stomach. Although pernicious anæmia has no symptoms that may not occur in other forms of anæmia, there are, nevertheless, certain symptoms which, especially in combination with each other, are more frequent in the pernicious than in the secondary or symptomatic anæmias. These symptoms, which, therefore, are in a degree characteristic, although not pathognomonic, of pernicious anæmia, are an excessive degree of anæmia; the preponderance of the anæmia over all other symptoms; the progressive and malignant course, often uncontrolled by therapeutical agents; the absence in many cases of emaciation, the intensity of heart murmurs without valvular lesions, and the frequent prominence of digestive disturbances. Upon post-mortem examination, fatty degeneration of the heart, and at times certain changes in the marrow of the bones, are observed with a greater degree of constancy and of intensity in pernicious than in symptomatic anæmia. The clinical history of our case taken in its entirety is therefore sufficiently characteristic to justify us in making the diagnosis of pernicious anæmia.

Pernicious anæmia and pseudo-leucocythæmia are frequently associated with, or rather accompanied by, new growths located in different portions of the body. These vary greatly in their size, location, and anatomical characteristics. Mosler, in the course of an article on Pseudo-leucocythæmia in Ziemssen's *Encyclopædia*, calls attention to them: "The follicles of the tongue and tonsils are sometimes much enlarged, which are whitish and pulpy on section; also upon the surface of the epiglottis soft, shiny, and translucent nodules, varying in size from a pea to a hazel-nut, at times single and again multiple, have been found." They project above the surface and interfere more or less with the function of the part, according to their size and location. Thus pressure upon the larynx or trachea may obstruct respiration, and death in pseudo-leucocythæmia is sometimes due to suffocation from this cause. So also paralysis of the laryngeal muscles may be caused by pressure of one of the growths on the laryngeal nerve. These growths are by no means confined to the respiratory tract, but are scattered through the body in various situations; for instance, the pneumogastric nerve may be involved in a tumor and the action of the heart be retarded; the femoral vein may be compressed and œdema of the lower limb follow; jaundice has been attributed to pressure on the bile duct, etc. It is, then, to this class of tumors that our case properly belongs. It differs in some respects from those cases of laryngeal myomata already reported—in the first place, by being associated with pernicious anæmia and terminating fatally, and in the second by the recurrence that took place. In a review of the literature of the subject we have been able to find but few cases of this form of benign tumor recorded, if we exclude those in which no microscopic examination was made. Sir Morell Mackenzie observed one on the right vocal cord that also had certain mucous characteristics. Bruns reports a case of pure hyaline myxoma which was attached to the right wall of the larynx, was of an irregular pear-shape, yellowish-red in color, dense but elastic in consistency, and almost completely occluded the entrance to the larynx. J. Solis-Cohen, in the *Transactions of the Pathological Society of Philadelphia* for 1873, mentions a myxomatous growth which he removed with forceps. It was multiple and pedunculated, attached apparently to the anterior portion of the thyreoid cartilage just below the glottis and to the left of the middle line. The growth was distinctly lobulated. The characteristic stellate cells, some anastomosing, imbedded in a hyaline ground substance, were shown upon microscopic examination. Tauber has operated upon one case of hyaline myxoma which was attached by a broad base to the entire anterior or lingual surface of the epiglottis. Thompson and M. Schmidt have had similar cases. Eemann, in the *Revue de* *laryngologie* for February, 1889, reports two cases, both of which were located on the vocal cords. These cases, together with the one here related, make a total of nine—certainly a small showing when we consider the immense number of laryngeal neoplasms yearly recorded. The differential diagnosis of these growths *in situ* from cystic tumors, and at times from fibroma, is most difficult if not impossible. Eemann states that he made an error in diagnosis in both of his cases. Basing his diagnosis on the consistence, color, and transparency of the growths, he thought they were cysts until the microscope showed them to be hyaline myxomata. This fact would seem to arouse the suspicion that perhaps many cases that have heretofore been classed as cysts in reality, if microscopic examination had been made, would properly have come under the head of myxoma. Would it not, therefore, be fair to assume with Eemann that it has not been scientifically proved that hyaline myxomata are so uncommon as we have hitherto been led to suppose?

Acute Yellow Atrophy of the Liver.—"Dr. Rosenheim reports a case of acute yellow atrophy of the liver in a child of ten in which crystals of bilirubin were found in the urinary deposit. These crystals have never, as far as Dr. Rosenheim is aware, been found before, except in the urinary tubules in icterus neonatorum. There was no albumin in the urine, only traces of propeptone and no peptone. Evidence was found of a considerable amount of degenerative change in the kidney parenchyma by the existence in the urine of granular casts. Epithelial remains and globules of fat were also found. As regards the ætiology of the disease, Dr. Rosenheim is not inclined to share in the view of Klebs and Eppinger, by whom acute yellow atrophy is looked upon as an infectious disease produced by special microbes, because he was unable to detect any micro-organisms in sections of the liver, and his endeavors to obtain cultures failed. He is much disposed to ascribe importance to the finding of masses of bacteria in the blood circulation, in consequence of which pathological changes in the liver may be set up. He is himself inclined to think that bacteria whose habitat is unknown produce some chemical body which exerts a deleterious effect on the parenchyma of the liver, and produces the characteristic morbid changes of acute yellow atrophy."—*Lancet.*

The Microbes of Pneumonia.—"Dr. Queisner has examined the lungs of a number of children and adults dying from pneumonia, his results showing that the pneumonia coccus of Fränkel and Weichselbaum is the usual bacterial cause of true croupous pneumonia. This coccus was also found in the majority of cases of broncho-pneumonia. In both children and grown-up people the sputum contained the coccus at the very commencement of the lung affection, and its existence appeared to form a very good sign of the invasion of pneumonia of one kind or another. In the lungs of ten children who had died of various forms of pneumonia, primary as well as secondary to measles, diphtheria, and tuberculosis, Friedländer's pneumonia bacillus was not once found, but the coccus was found in eight cases. In several instances it was impossible to distinguish between the catarrhal and the croupous form, as even in undoubted catarrhal cases a very perceptible quantity of fibrinous exudation was found."—*Lancet.*

Glucose as a Diuretic.—"According to Mlle. Sophie Meslach, lactose is not the only diuretic sugar. Glucose acts in the same way. Lactose is only absorbed in the form of glucose; it acts solely on the kidneys, but does not pass into the urine. Its effect is to raise the quantity of urine higher than the quantity of fluid swallowed. It gives good results when the kidneys are healthy or nearly so; in dropsy of cardiac origin also, when there is only a small proportion of albumin in the urine. The dose is 200 grammes of syrup at 75 per cent. a day. The grape cure so general in Switzerland and Germany acts in virtue of the glucose."—*British and Colonial Druggist.*

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THE CONNECTION BETWEEN GASTRIC DISEASE AND DISORDERS OF THE NERVOUS SYSTEM.

ACCORDING to the opinions of M. Cuffer, expressed in a recent number of the *Revue de médecine*, reflex action can not explain the persistency with which nervous disorders appear in connection with diseases of the stomach. In chronic gastric cases, notably in those of cancer, he has observed the presence of these disturbances, and he considers it possible that they may depend upon an ascending inflammation of the pneumogastric nerve, extending to the bulb, and on this supposition he explains the bulbar symptoms which he has found present in his cases during life, and which post-mortem examination has enabled him to verify. In the early stage of disease such manifestations have, no doubt, a reflex origin, but the researches carried on by the writer in connection with tabes dorsualis have led him to observe the fact that reflex disturbances have great prognostic value and that they indicate the direction which will eventually be taken by the concomitant nervous lesion.

Nervous disorders of gastric origin may be divided into two classes: 1. Transient disturbances of variable intensity, sometimes intense, but leaving no permanent trace behind them. 2. Permanent affections, always grave, bringing about disease of sufficient gravity to cause death. Of the first class stomachal vertigo is a frequently observed instance, but it is found more commonly in cases in which the mucous membrane of the stomach is alone concerned, and not in those in which the whole thickness of the gastric wall is involved, as is particularly the case in cancer. But it is grave structural lesions that are dealt with in M. Cuffer's paper. Coincidently with the beginnings of disease, reflex disturbances occur, and respiration and cardiac action are disturbed, but after a certain period the right heart becomes permanently dilated, and the signs of tricuspid regurgitation with intermittence become apparent. Visceral congestions and œdema of the extremities also occur, and in this way patients whose disease is in the stomach may die of a cardiac cause.

These phenomena are thus explained by M. Potain, who has given special attention to their production. At the moment that the gastric mucous membrane undergoes congestion a reflex influence is developed which brings about a spasm of the branches of the pulmonary artery; hence tension is increased throughout this arterial distribution and the emptying of the right heart is interfered with, so that at first it undergoes transient dilatation and later on manifests the signs of tricuspid regurgitation and asystole. A reflex action may thus give rise to grave structural disease, and even to fatal effects. Further, the tendency to bulbar changes in gastric disease was long ago pointed out by Peter, who described, in connection with these effects, pain in the upper part of the vertebral column. Salivation is often present in such cases, a symptom essentially bulbar.

Cuffer relates four cases in support of his statements, in all of which there were stomach symptoms with evidence of organic disease, and subsequently signs of bulbar paralysis, but he was not able to prove his explanation of these coincidences until November, 1889, when he was enabled thoroughly to convince himself of its correctness at the autopsy of a man, aged forty-five, who had died in his wards at the *Hôpital Tenon.* A well-marked inflammation of the peripheral parts of the vagus was demonstrated. M. Cuffer brings his communication to a close by asserting the existence of the two kinds of nervous disturbance due to disease, functional disturbance and organic lesion which is of the nature of a bulbar myelitis consecutive to an ascending inflammation of the vagus, the latter taking its origin at the level of the gastric lesion, and which is accompanied by the symptoms, more or less complete, of labio-glosso-laryngeal paralysis. As to prognosis, the transient nervous manifestations do not increase the gravity of the situation, except in those rare cases where cardiac dilatation and asystole are present, while the permanent nervous changes indicate a rapidly fatal termination.

FALSE WEIGHTS IN PHARMACEUTICAL PREPARATIONS.

In the *Tenth Annual Report of the Board of Health of the State of New York* there is an interesting report by Professor G. C. Caldwell, the public analyst, on the examination of two hundred and seventy-five samples of alkaloidal preparations made by various manufacturers, sold by various dealers, and purchased at different times in different localities. Of these, he classed one hundred and seventy-seven as good, thirteen as passable, and eighty-five as deficient.

A review of the appended tables gives some interesting information. For instance, in fifteen samples of sulphate of quinine, foreign alkaloids were found in excess in nine specimens; and this excess is found in a manufacturer's quinine that in other specimens shows an absence of any foreign alkaloids. Of forty-two samples of capsules of quinine, twenty-two exhibited a deficiency of quinine varying from one two-hundredth to four fifths of a grain in each capsule; in twenty samples there was an excess varying from one fiftieth to one third of a grain in each capsule. In ninety-eight samples of quinine pills, seventy-one exhibited a deficiency of from one two-hundredth to one half a grain, and in twenty-seven specimens there was an excess attaining one tenth of a grain. Here, again, we find the pills of the same manufacturer showing a deficiency as great as one sixth of a grain and an excess as high as one twenty-fifth; with the products of one firm an excess was found three times and a deficiency twenty times, and, while the amount is insignificant in each pill, it makes considerable difference in the total quantity of quinine in, say, a hundred pills. So with pills of sulphate of morphine, a deficiency was found twenty-nine times and an excess five times, the former varying from one two-hundredth to one tenth of a grain, while the excess was inappreciable. All hypodermic tablets of morphine were short from one one-hundredth to one fourteenth of a grain.

These average variations were found in the products of well-known manufacturers, as well as in those of local pharmaceutists; and it is not unreasonable to question the care with which manufacturing processes are conducted, as well as the indifference to any examination of either the alkaloids used in the manufacture or the product after being manufactured, if such wide ranges of variation in the dosage of preparations from the same manufacturer can be found. We have our thermometers tested and corrected; will the competition of manufacturers render the same procedure necessary with our drugs? The work that is done by the State board in this line is excellent, and we hope that its publicity may lead to greater care in manufacturing processes.

MINOR PARAGRAPHS.

THE "WILD MELON" OF AUSTRALIA.

In the *Australasian Medical Gazette*, Mr. J. F. Souter, of Lake Cudgellico, New South Wales, records a case of poisoning with a cucurbitaceous plant indigenous to Australia, known as the "wild melon." The patient was a child, three years old. The symptoms were nausea followed by vomiting of a watery fluid; five hours later, a convulsion with opisthotonos, upward rotation of the eyeballs, and foaming at the mouth; and finally a comatose state with great contraction of the pupils, pallor of the face, and labored breathing, the pulse being 140 and the temperature 98° F. After further vomiting and the administration of a warm bath the pupils suddenly regained their normal size, and the child cried. Pupillary contraction came on again, and the pulse fell to 100. Two grains of calomel were then given, also frequent teaspoonful doses of brandy. This was followed by profuse sweating of short duration and by sleep, after which there was nothing noticeable about the child, except slight yellowness of the sclerotics.

NERVOUS DERANGEMENTS AFTER CASTRATION.

In the *Wiener medicinische Presse* Dr. Weiss relates the case of a man, forty-eight years old, both of whose testicles were removed for tubercular disease. The operation was shortly followed by certain psychical and nervous derangements, some of which lasted for six years. The attacks were generally preceded by an aura of a sensation of oppression, and consisted of flashes of heat about the head and trunk, accompanied with profuse sweating. At the same time there were neurasthenic phenomena, such as headache, vertigo, palpitation, and melancholy, and the memory and the will were notably enfeebled. After a short time there were attacks of gastro-intestinal neuralgia. The author likens these troubles to those observed after oophorectomy or in connection with the menopause. It is to be noted that the patient was of neurotic antecedents of an hereditary nature.

THE TOXICITY OF THE URINE IN INTERMITTENT FEVERS.

According to the *Revue générale de clinique et de thérapeutique*, Dr. Brousse has experimented on rabbits to determine: 1. The modifications of the toxicity of urine during a paroxysm of intermittent fever. 2. The relations between the toxicity during the paroxysm and during convalescence. He has demonstrated that the urotoxic coefficient, calculated by Bouchard's formula, is elevated during the paroxysm. The physiological effects observed are those usually noted after the injection of urine: dyspnœa, myosis, fall of temperature, exophthalmia, and convulsions. The toxicity is diminished during convalescence, being much less than during the paroxysm and less than that of normal urine. It is yet to be determined whether the toxicity depends upon the febrile state solely, and also whether there is a difference in the toxicity of the urine during and at the end of the paroxysm.

DEDUCTIONS FROM EXPERIMENTS WITH DRUGS.

The *Progrès médical* states that Dr. Huchard recently read a paper on The Physiological and Therapeutical Action of Drugs before the *Société de thérapeutique*, calling attention anew to significant differences in the action of certain drugs in the well and in the sick and in various forms of disease. For example, it was stated that quinine lowered the temperature in typhoid fever, but had no such effect in erysipelas. The lesson to be drawn from such facts is that it is not safe to make sweeping therapeutic deductions from observations of the physiological action of drugs; to use the author's words, physiology should not enslave medicine.

A MODIFICATION OF ROMBERG'S TEST IN THE DIAGNOSIS OF LOCOMOTOR ATAXIA.

In a recent Bordeaux thesis, summarized in the *Gazette hebdomadaire de médecine et de chirurgie*, Dr. Perron describes a modification of Romberg's test by which he has been enabled to diagnosticate locomotor ataxia in its incipiency. The patient is directed to stand on one leg and close his eyes; if he can not keep his balance, the inference is that he is affected with a spinal lesion that will ultimately give rise to locomotor ataxia. As ordinarily employed, Romberg's test often fails in cases that are not far advanced.

PERSONAL UNCLEANLINESS AS A FACTOR IN THE CAUSATION OF CHOLERA.

In the *Gazette médicale d'Orient* Dr. Gabuzzi cites Bochefontaine's experiments going to show that the microphyte of cholera is sterile within the patient's organism, and that, in order to be rendered capable of conveying the disease, it must find a nutritive soil on being cast off from the system. The urine, he thinks, often constitutes a medium in which it may attain pathogenic powers, and uncleanliness, which favors the mixture of urine with the bacillus, may therefore be regarded as a predisposing cause of cholera.

EPILEPSY AND ANKYLOSIS OF THE ATLAS.

Epilepsy has often been observed in cases of ankylosis of the atlas, and the epilepsy has been regarded in such cases as the result of the encroachment of the bone on the vertebral canal. In an article published in the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, Dr. W. Sommer gives it as his opinion that such encroachment should not be considered as a cause of epilepsy unless it is accompanied by signs of compression of the spinal cord. He founds this opinion on the absence of epilepsy in the case of an anæmic old man who had ankylosis and forward subluxation of the atlas, apparently in consequence of arthritis deformans.

SIMULTANEOUS DISLOCATION OF BOTH ENDS OF THE CLAVICLE.

In *Guy's Hospital Reports*, for 1889, Mr. Clement Lucas relates a case of this rare injury. The patient, a man, thirty-two years old, was standing between the wheels of two vehicles that were close together, when a third vehicle came into collision with one of them and gave it an impetus by which the man's chest was partially crushed between the wheels. The outer end of the right clavicle was forced over the acromion, and its inner end was driven backward and downward, and lodged beneath the sternum, the first costal cartilage on each side being at the same time dislocated backward.

A MEDICO-LEGAL VIEW OF PAINLESS LABOR.

Dr. Brunon recently reported to the *Société de médecine* of Rouen the case of a primipara whose labor was so nearly painless that she herself mistook it for difficult defecation and would have been delivered in the water-closet if she had not been removed from it. According to the abstract published in *La Normandie médicale*, she felt only lumbar pains and a sense of weight in the rectum, and was not aware of the flow of liquor amnii. The author infers from this case that the discovery of a new-born infant in a water-closet pan does not necessarily raise the presumption of premeditated infanticide.

THE PHYSICIAN AS A PREFERRED CREDITOR.

According to French practice, the physician is a preferred creditor only in case of the patient's death, and then only to the extent of his fees for attendance during the last illness; but, as we learn from *Lyon médical*, a French court has recently decided in favor of the claim of a Dr. Benoist as a preferred creditor of a patient who recovered, but became insolvent. The decision overruled that of the assignee, and the costs fell upon the estate.

THE MEDICAL CORPS OF THE ARMY.

We would call the attention of our younger readers to the notice, given elsewhere in this issue, of the session of an army medical board in New York during the month of October. There is no more honorable office for a physician to bear than that of a medical officer of the United States Army, and there are few that afford him greater opportunities for entering upon a career of distinction.

THE NEW SURGEON-GENERAL OF THE ARMY.

The hope expressed by us last week has been fulfilled by the confirmation of Dr. Baxter's nomination as surgeon-general of the army, which took place at about the time our last issue went to press. Surgeon-General Baxter is very much esteemed by the profession, and we feel confident that his administration of the affairs of his high office will prove gratifying to them.

A REMEDY FOR PHTHEIRIASIS PUBIS.

According to *La Médecine moderne*, M. Brocq uses a solution of one part of corrosive sublimate in five hundred parts of vinegar as a lotion for destroying crab-lice. It is said that it not only kills the pediculi, but also detaches the nits.

ITEMS, ETC.

An Army Medical Board will be in session in New York city, during October, 1890, for the examination of candidates for appointment in the Medical Corps of the United States Army to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before October 1, 1890, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a regular medical college, as evidence of which, his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 2, 1890:

DISEASES.	Week ending Aug. 26.		Week ending Sept. 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	37	11	42	11
Scarlet fever	14	3	17	1
Cerebro-spinal meningitis	0	0	1	0
Measles	79	12	52	10
Diphtheria	51	16	52	16

The New York Institute for Eye and Ear Diseases is the title of a recently incorporated institution under the medical management of Dr. J. L. Campbell, Dr. W. C. Campbell, Dr. Charles Simmons, Dr. George P. Shirmer, and Dr. C. J. Dumond. Its object is to maintain a free hospital and dispensary for the treatment of diseases of the eye, ear, and throat, and to establish a school of instruction in the treatment of these diseases.

The Mississippi Valley Medical Association will hold its sixteenth annual meeting at Louisville, Ky., on Wednesday, Thursday, and Friday, October 8th, 9th, and 10th, under the presidency of Dr. Joseph M. Mathews of that city.

The German Medical Society of Brooklyn will hold its regular monthly meeting on Friday, the 12th inst.

Bromide of Ethyl as an Anæsthetic.—"Dr. Thomas Frank, of Torontal-Szégcsány, in Hungary, has employed, it is stated, with great success the inhalation of bromide of ethyl for anæsthesia during operations on the mouth. In one case the patient, though he felt no pain during the removal of a sarcomatous epulis, did not entirely lose consciousness, as he spat some blood when requested to do so, and when at the commencement the breathing stopped, he resumed it in reply to directions."—*Lancet.*

Change of Address.—Dr. Charles W. Brown, from Elmira, N. Y., to 902 Fourteenth Street, N. W., Washington, D. C.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending July 5, 1890:*

(Previously omitted.)

Hutton, W. H. H., Surgeon. Ordered to Washington, D. C., for special duty. June 23, 1890.

Long, W. H., Surgeon. Granted leave of absence for thirty days. July 2, 1890.

Austin, H. W., Surgeon. When relieved at Chicago, Ill., to report in person to the Supervising Surgeon-General. July 5, 1890.

Irwin, Fairfax, Surgeon. To proceed to Biloxi, Miss., on special duty. July 2, 1890.

Mead, F. W., Surgeon. Relieved from duty at St. Louis, Mo., to assume command of the Service at Chicago, Ill. July 5, 1890.

Armstrong, S. T., Passed Assistant Surgeon. Granted leave of absence until August 7, 1890. June 24, 1890.

Kalloch, P. C., Passed Assistant Surgeon. Relieved from duty at San Francisco, Cal., to assume command of the Service at St. Louis, Mo. July 5, 1890.

Perry, T. B., Assistant Surgeon. Granted leave of absence for ten days, July 2, 1890. Upon expiration of leave to proceed to Norfolk, Va., for temporary duty. July 5, 1890.

Cobb, J. O., Assistant Surgeon. To proceed to St. Louis, Mo., for temporary duty. July 5, 1890.

Brown, B. W., Assistant Surgeon. To proceed to San Francisco, Cal., for temporary duty. June 23, 1890.

Resignation.

Armstrong, S. T., Passed Assistant Surgeon. Resignation accepted, by direction of the President, to take effect August 7, 1890. June 24, 1890.

Appointment.

Brown, B. W., Assistant Surgeon. Commissioned as an assistant surgeon by the President. June 23, 1890.

(Omitted from previous list.)

Bailhache, P. H., Surgeon. To proceed to Eureka, Col., and Astoria, Oregon, as inspector. June 5, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 30, 1890:*

Hoehling, A. A., Medical Inspector. In addition to present duties, ordered as President of Medical Examining Board at Philadelphia convened by Department Order, June 9, 1890.

Kennedy, R. M., Assistant Surgeon. In addition to present duty, ordered as member of the above-named Board.

Ogden, F. N., Passed Assistant Surgeon. In addition to present duty, ordered as member of the above-named Board.

McClurg, Walter A., Surgeon. Granted a month's leave of absence from September 1st.

Kershner, Edward, Surgeon. Granted two weeks' leave of absence from September 1, 1890.

Letters to the Editor.

"PINK-EYE."

London, *August 20, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue for June 28, 1890, an article entitled "Pink-Eye" appears, which refers to articles by the undersigned which appeared in the *Arch. of Ophth.*, vol. xv, No. 4, 1886, and in the *Medical Record* for May 21, 1887. I wish to notice the article in your Journal only to correct some errors.

Quoting from the paper referred to: "No one has, so far as I am aware, repeated his experiments" (meaning my experiments), "nor has any one essayed to make an analysis of the evidence he has furnished."

The writer is referred to an article by Kartulis (*Ctrlbl. f. Bacteriologie u. Parasitenk.*, page 289, 1887), where he will find full confirmation of the results previously arrived at by me.

"A pure cultivation of the small bacillus could not be obtained."

Since writing the articles referred to above, I have produced a pure cultivation of the bacillus, photographs of which have been made. These were shown at the Tenth International Medical Congress in Berlin. Their existence was known to the writer of the article which appeared in your Journal before that article was published. "The small bacillus (together with the clubbed bacillus) was found in the secretion in every case."

There is no authority whatever in my article for the clause included in parenthesis in this quotation.

John E. Weeks, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twelfth Annual Congress, held at Baltimore, on Thursday, Friday, and Saturday, May 29, 30, and 31, 1890.

The President, Dr. John N. Mackenzie, of Baltimore, in the Chair.

(*Continued from page 187.*)

A Case of Myxoma of the Epiglottis was the title of a paper read by Dr. Vander Poel. (See page 268.)

The President: We often draw incorrect inferences with regard to the rarity of diseases by the infrequency of reports of such cases in medical literature. I think that, whereas this growth in the locality described by Dr. Vander Poel is rare, the same growths, occurring lower down in the larynx, are not of such rarity as might be inferred from the published records.

Dr. Swain: I remember removing such a growth from the fossa glosso-epiglottidea, just at the junction of the epiglottis and the tongue, which was a simple polypus, strictly a mucous polyp, resembling those of the nose in every respect, except it was more consistent.

Dr. Vander Poel: In reply to the chairman I would simply say that myxomata are essentially embryonic tissue tumors, as myxomatous tissue is only present in the normal adult in a very imperfect and atypical form—as in the vitreous of the eye—and in small amount in the medulla of bone. It is, however, a tissue which readily undergoes transformation, and pure myxomata are not common. They are apt to be combined with fibrillar connective tissue, as fibro-myxoma; or with fat tissue, lipomyxoma; and they frequently become sarcomatous, or take part in the formation of complex tumors. It is therefore to this class of tumor, this degenerated or transformed myxoma, that I believe the chairman refers when he says that he has frequently seen them. What I referred to was a pure gelatinous growth, characterized by stellate fusiform cells, often anastomosing, imbedded in a homogeneous or finely fibrillated, soft, gelatinous basement substance. The case mentioned by Dr. Swain is undoubtedly analogous to the one I have reported. Probably in most cases the diagnosis is made from the macroscopic appearances, and is not confirmed by microscopic examination. I think that originally the growth may be a hyaline myxoma, but subsequently undergoes a change such as I have referred to.

Special Articles.

LETTERS TO MY HOUSE PHYSICIANS.

By WILLIAM OSLER, M. D.,

BALTIMORE.

Letter IV.

Erlangen and Würzburg.

Dear S.: The university is Erlangen—practically there is nothing else in the little Bavarian town, which forcibly illustrates the great truth that *men* make a seat of learning, and, if given proper facilities, will attract students. It is surprising, however, in a place of this size to find so large a hospital; but many patients come from the surrounding country, and there is ample teaching material in medicine and surgery, and even in the special branches.

Strümpell, who has charge of the medical clinic (whose text-book, edited by Shattuck, has made his name well known in America), is one of the most industrious and progressive of the younger generation of German professors. His contributions to neurology have been most important. The medical wards are well arranged, and we were shown a series of instructive cases, several of great rarity. One in particular, of acromegalia, attracted our attention, as it was a most typical instance—a woman, aged twenty-eight, looking over fifty, with large, coarse features, apathetic expression, and enormous hands and feet, which had been, with the face, progressively enlarging for years. The remarkable affection seems rare in Germany, as it is with us. Ever since the publication of Marie's paper I have been on the lookout for cases, and searched in vain the chronic wards at the Philadelphia Hospital. I have known of one case in Toronto for several years, and saw a second in the same town with Dr. Burritt; both of these have recently been described by Dr. I. E. Graham. I see that a special monograph has just been published in Paris on the disease.

A case of rhythmical spasm of the psoas muscles in a middle-aged man, which came on after a sudden paraplegia two years ago, was rather a puzzler for diagnosis. The thighs were lifted with each contraction, and there was a slight spastic condition of the legs. There was evidently organic disease, but the case simulated hysterical rhythmical spasm, an instance of which I remember was shown by Dr. George Ross at the Medico-chirurgical Society of Montreal. Speaking of hysteria, Professor Strümpell sent for photographs of a remarkable case which had recently been under his care, in which the girl had produced extensive lesions of the extremities by cauterization, leaving sloughs resembling somewhat those of symmetrical gangrene. In my last letter I referred to the heart disease induced by the combination of heavy drinking and heavy work, and we found here in one of the wards a most characteristic example: A man, aged about thirty-six, employed in a brewery and accustomed for years to drink from twenty to thirty litres of beer daily, began to suffer with shortness of breath, then œdema of the feet, and finally anasarca of the lower part of the body; in this condition he was admitted to hospital. The heart was much dilated and a loud apex systolic murmur was heard. Under treatment and rest the dropsy was subsiding and the heart's impulse was much more distinct, about two inches outside the nipple line. This, Strümpell said, was a common history in the workers in the large Erlangen breweries. At about the age of forty the breakdown occurred, and usually with heart failure, which proved fatal after two or three attacks. We questioned this patient—a most intelligent fellow—as to the quantity of beer consumed daily by the men, and the figures I mention above represent, he assured us, an average allowance. As might have been expected from the good work which has been done here, there was an excellent collection of cases of diseases of the cord, including one of syringomyelia, and of cases of muscular atrophy, and in the clinical laboratory we were shown many beautiful microscopical sections, particularly of the combined scleroses of the cord. Unfortunately, it was not a clinic day, and we did not hear Professor Strümpell lecture (I had had that pleasure in Leipsic in 1884), but after the hospital visit we spent a couple of delightful hours at his house.

One of the men I was most anxious to meet in Erlangen was Professor Zenker, the describer of trichinosis in man, the discoverer of fat embolism, and the industrious worker at anthracosis and siderosis. He was busy at a Staats-Examen and could not give us much time, but his son and assistant showed us the Pathological Institute, which, though small, is conveniently arranged for teaching. In the post-mortem room we saw a rare termination of mediastinal sarcoma. A man of about forty, with signs of intrathoracic pressure, had died suddenly in the wards. The entire mediastinum was occupied by a large sarcoma, which completely surrounded the great vessels, covered over the heart, and had perforated the superior vena cava, into which masses of the soft tumor projected. Death was no doubt due to extensive pulmonary embolism. As is common in these mediastinal growths, there was extensive pleural effusion on one side, a condition which often complicates the diagnosis.

The new building for the general faculties and the new biological aboratory (in charge of Professor Selenka) have helped largely in the apid progress which Erlangen has made as an educational center dur-ng the past few years.

Würzburg is the second largest Bavarian university, and its medi-al school ranks, in number of students, fourth in the empire. The at-endance has increased enormously during the past decade, due in part, o doubt, to the attractive character of the new laboratories which have een provided by the government.

The name of Kölliker is not so familiar to English-speaking stu-ents of to-day as it was twenty years ago. The new works on histolo-y have displaced the old text-book upon which we, and indeed the eneration before us, were brought up, but the man who, forty-five ears ago, with Bowman and Goodsir, stimulated the study of minute natomy, is still vigorous and at work, thoroughly abreast of the times, nd a living illustration of the fact that age, after all, is a relative con-ition. One who has within a few years brought out an elaborate *ntwickelungsgeschichte*, and who, within a month or so, has issued the rst part of a new edition of his general histology, twenty-five years fter the last edition, can not be called old, though his years may be eaching the Psalmist's limit. I have very pleasant recollections of rofessor Kölliker in 1872 and 1873, on the occasion of his visits to ear old Dr. Sharpey at University College. He then was an elderly an, with snow-white hair, and naturally eighteen years have left their aces; but he retains a bodily and a mental vigor which many a ounger man might envy, and an interest in all departments of anatomy hich it was delightful to see. The new anatomical institute is indeed orthy of the distinguished director, and it was with evident pleasure nd pride that he showed us the various divisions devoted to human atomy, histology, embryology, and comparative anatomy. The mu-eums occupy a large space, as the collections are very extensive; but e laboratory and lecture-room accommodation in this building alone quals the entire teaching space of an average American medical school. mple provision is made for instruction in the specially practical de-artments—gynæcological, surgical, and medical—and we found one ass-room occupied by a teacher of gynæcology who was lecturing to nior men on pelvic anatomy. The general lecture-room seems excep-onally well arranged for the students, and is regarded by Professor ölliker, and rightly I think, as a model of the kind. In the histo-gical laboratory it was pleasant to see a son of the late Max Schultze, e founder of the *Archiv für mikroscopische Anatomie*, whose mem-y will always be held in grateful remembrance by students of micros-py.

The Julius Hospital is an ancient and wealthy foundation dating om the sixteenth century, and is in many parts sadly in need of the novation which is in progress. The new surgical amphitheatre is the nest which we have seen—very spacious, with tiled floor, glazed walls, on and oak, open seatings, so that the entire room can be flushed with e hose. The arrangements for patients and assistants seem very per-ct in the large suite of rooms opening into the amphitheatre. Hospi-l authorities in America, particularly those in connection with large edical schools, might consult with advantage the plans of this new ilding, which apparently combines all the modern antiseptic require-ents in a thorough yet plain manner.

In the medical clinic we found Professor Leube with a class of at ast three hundred students, who even thronged the arena and the steps the auditorium. I have already referred to the system of instruction hich appears uniform in the German schools. A case of acute yellow rophy of the liver was shown which had previously been before the ass and very unexpectedly had convalesced. Every symptom of the sease had been present, and, in spite of the great improvement, the iginal diagnosis was maintained, and the professor stated that he had own of one other instance of recovery. The microscopical and chem-l examination of the urine was demonstrated by the assistants at ry conveniently arranged tables in the arena and without any confu-on or disturbance. Upon the next case—hæmorrhage from the stom-h—two students were thoroughly and patiently drilled, first, on the neral ætiology, and then on the probable special conditions existing the patient; then followed a summing up, a diagnosis, and the treat-ent (which in this case consisted in complete abstention from food, th the administration of ergot and opium). Professor Leube is a clear, incisive, and most agreeable teacher, and I envied the students who had the privilege of his instruction.

In the Pathological Institute we were fortunate enough to see a demonstration in the post-mortem room. One of the assistants was instructing a tyro in the technique of an autopsy, while Professor Rindfleisch, with blackboard and chalks and coarse sections, was explaining the anatomy of stone-workers' phthisis. Instead of passing the entire specimen about, small but characteristic portions were distributed on little platters. The whole question of fibroid induration due to dust inhalation was very thoroughly discussed. The remainder of the hour was occupied in the demonstration of the kidneys in a case of acute nephritis in which *macroscopically* there were no changes visible in the cortical part, but with the microscope extensive glomerular disease was found. The post-mortem room is oblong in shape, with a large central area, around which are three tiers of seats for about eighty men. A good view can be obtained from almost any part of the room.

Würzburg has had many notable professors in the past three centuries, but, on leaving the Pathological Institute, I could not but think of the young Berlin prosector who in 1849 found it desirable to accept a chair in this university, and who in the succeeding seven (?) years, by a brilliant series of researches, made the name of Virchow imperishable in our annals and gave the glory to the Würzburg school of a majority of those epoch-making works in the *Gesammelte Abhandlungen*.

Book Notices.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By RICHARD C. NORRIS, A. M., M. D., Demonstrator of Obstetrics, University of Pennsylvania. Philadelphia: W. B. Saunders, 1890. Pp. xv–17 to 154. [Price, $2.]

THIS little book, prepared for the class in obstetrics at the University of Pennsylvania, presents in a concise form an analysis of the lectures which are given at that institution upon that subject. Its range might be widened with profit, and it may be referred to with advantage by students in obstetrics elsewhere, not only by those who are still students in theory, but by those who have been brought into practical contact with the all-important questions of the obstetric art.

Hypnotism: Its History and Present Development. By FREDRIK BJÖRNSTRÖM, M. D., Head Physician of the Stockholm Hospital, etc. Authorized Translation from the Second Swedish Edition. By Baron NILS POSSE, M. G., Director of the Boston School of Gymnastics. New York: The Humboldt Publishing Co. Pp. 126. [The Humboldt Library.]

THE advantages and dangers of psycho-therapeutics, together with a review of hypnotism from earlier times to the present, and the history of clinical experience with this agent, form the interesting contents of Dr. Björnström's essay. It is a valuable contribution to the literature of the subject, which continues to attract general attention. A little learning is even more dangerous, perhaps, when it is a question of hypnotism than in some other applications of medicine. Hence the importance of all good books that treat of this particular agent.

The Student's Surgery. A Multum in Parvo. By FREDERICK JAMES GANT, F. R. C. S., Senior Surgeon to the Royal Free Hospital. Philadelphia: Lea Brothers & Co., 1890. Pp. xxxv–817. [Price, $3.75.]

THIS book is written for the use of English students preparing for their final examination, and seems to be unusually well adapted to the purpose for which it is written. The arrangement is good, it is written very closely, and deserves its title "multum in parvo." The omission of such subjects as the surgery of the eye, ear, teeth, skin, female genital organs, and orthopædic surgery will meet with general approval, for these special lines of surgery have been developed to such a degree that an attempt to outline each would require either the omission of much that is valuable or a great increase in the size of the book, and in either case would detract from its value to students.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Massage, Theoretical and Practical; its History, Mode of Application and Effects, Indications and Contra-indications, with Results in over Fifteen Hundred Cases. By Douglas Graham, M. D., Fellow of the Massachusetts Medical Society, etc. Second Edition, revised and enlarged. New York: J. H. Vail & Company, 1890. Pp. x–342.

The Essentials of Medical Chemistry and Urinalysis. By Sam E. Woody, A. M., M. D., Professor of Chemistry and Public Hygiene, and Clinical Lecturer on Diseases of Children, in the Kentucky School of Medicine. Third Edition, revised, enlarged, and illustrated. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. viii–9 to 157.

A Library of American Literature from the Earliest Settlement to the Present Time. Compiled and edited by Edmund Clarence Stedman and Ellen Mackay Hutchinson. In Eleven Volumes. Vol. XI. New York: Charles L. Webster & Company, 1890. Pp. xxvi–648.

Fifth Annual Report of the State Board of Health of the State of Maine. For the Fiscal Year ending December 31, 1889.

Menstruation and the Removal of Both Ovaries. By George J. Engelmann, A. M., M. D., etc. [Reprinted from the *Transactions of the Southern Surgical and Gynæcological Association.*]

Stricture of the Rectum: a Study of Ninety-six Cases. By Charles B. Kelsey, M. D., Professor of Diseases of the Rectum at the New York Post-graduate Medical School and Hospital. Pp. 3 to 41.

The Popularization of Sanitary Science. Annual Address before the Third District Branch of the New York State Medical Association at Syracuse, N. Y., June 19, 1890. By J. G. Orton, M. D. [Reprinted from the *Sanitarian.*]

Transactions of the American Dermatological Association at its Thirteenth Annual Meeting, held at the Boston Medical Library, Boston, Mass., on the 17th, 18th, and 19th of September, 1889.

Report on the Cause of the Recent Outbreak of Typhoid Fever in Waterbury. Made to the Connecticut State Board of Health. By Herbert E. Smith, M. D.

Annual Address on Practice of Medicine. The Mutual Obligations and Responsibilities of the Physician and the People in promoting Medical Science. By W. F. Breakey, M. D., Ann Arbor, Mich. [Reprinted from the *Proceedings of the Michigan State Medical Society.*]

Kurzer Abriss der Perkussion und Auskultation. Von Dr. Hermann Vierordt, a. o. Professor der Medizin an der Universität Tübingen. Dritte verbesserte Auflage. Tübingen: Franz Fues, 1890. Pp. 65.

De l'anesthésie locale par injection de cocaine et du bon effet de la bande d'Esmarch. Par le Dr. E. Kummer, Chirurgien à l'Hôpital Butini. [Extrait de la *Revue et Archives suisses d'odontologie.*]

Report of the Provost of the University of Pennsylvania. For the Two Years ending October 1, 1889. With Abstracts from the Treasurer's Annual Reports.

Proceedings of the First Annual Meeting of the Tri-State Medical Association of Alabama, Georgia, and Tennessee. Held in Chattanooga, Tenn., October 15 and 16, 1889.

Second Annual Report of the New Amsterdam Eye and Ear Hospital, with Nose and Throat Department. For the Year ending May 13, 1890.

Report of the Trustees of the Newport Hospital. Presented to the Corporation at their Seventeenth Annual Meeting, July 8, 1890.

Appeal for a Ward for Women and Children at the Newport Hospital.

Altes und Neues in der Therapie. Akademische Antrittsrede gehalten in der Aula der Universität Tübingen am 27. Februar, 1890. Von Dr. Hermann Vierordt, a. o. Professor der Medizin. Tübingen: Franz Fues, 1890. Pp. 3 to 26.

Miscellany.

The Medical Department of the Army.—The following circular of information is published for the benefit of medical men who may be desirous of entering the United States Army:

The Medical Department of the Army consists of one Surgeon-General with the rank of Brigadier-General; one Assistant Surgeon-General, one Chief Medical Purveyor, and four Surgeons with the rank of Colonel; two Assistant Medical Purveyors and eight Surgeons with the rank of Lieutenant-Colonel; fifty Surgeons with the rank of Major; and one hundred and twenty-five Assistant Surgeons with the rank of First Lieutenant of Cavalry for the first five years of service, and of Captain of Cavalry subsequently until their promotion by seniority to a majority.

With the rank stated in each case the pay and emoluments of the rank are associated. The salary of each grade is a fixed annual sum payable monthly; but at the end of each period of five years of service the annual sum representing the pay of the grade is increased by ten per cent. until forty per cent. is added. After twenty years of service the forty per cent. additional continues to be drawn, but the further increase of the pay by ten per cent. additions ceases—*i. e.*, an officer, although he may have served twenty-five or thirty or more years, can, under existing laws, have no more than forty per cent. added to his pay proper by way of increase for length of service. The pay of a first lieutenant of cavalry, or of a medical officer during the first five years of his service, is $1,600 per year, or $133.33 per month. At the expiration of his five years of service he becomes, by virtue of that fact, a captain, and his pay is that of a captain of cavalry, $2,000 per year, increased by ten per cent. for his years of service—viz., $2,200 annually, or $183.33 monthly. At the end of his tenth year of service this rate of pay is increased by the service-addition to $2,400 annually, or $200 per month, and after five years more the service-addition makes his pay $2,600 annually, or $216.67 per month. If he continue in the rank of captain, at the end of twenty years of service his monthly pay becomes $233.33; but about this time promotion to a majority is usually obtained, and a major's annual pay of $2,500, with forty per cent. added, makes the monthly pay of the major and surgeon $291.67. Subsequent promotion, investing the individual with the rank of lieutenant-colonel, colonel, and brigadier-general, augments the monthly pay respectively to $333.33, $375.00, and $458.33. Compulsory retirement at the age of sixty-four years increases the rapidity of promotion to the younger men; and when retirement is effected either by age or by the accidents of service prior to reaching the retiring age, the rate of pay subsequently drawn is seventy-five per cent. of the total salary and increases of the rank held by the individual at the time of his retirement. Thus, a major retired for broken health after twenty years' service draws seventy-five per cent. of $291.67 per month; a colonel retired for age, seventy-five per cent. of $375.00. The medical officer has the right of selecting quarters in accordance with his rank, and when stationed in a city where there are no Government quarters, commutation money, intended to cover the expense of house rent, is paid to him. The Government provides forage and stable room for the horses of the medical officer, and when traveling under orders the expenses of transportation are paid by the Quartermaster's Department.

Among the privileges granted to medical, as to other officers of the army, is that of leave of absence on full pay. The authorized leave amounts to thirty days annually. This leave is not forfeited if not taken during the year, but is credited to the officer, who may thus accumulate a continuous leave of four months on full pay. If he desires to be absent for a longer period than four months, and the permission is accorded him, he is reduced to half-pay for all time in excess of the four months or maximum of cumulated leaves of absence. Absence from duty on account of sickness does not affect the relations of the officer with the paymaster; he continues to draw full pay.

A commission in the Medical Department of the Army is an instrument which is good for life, premising conduct consistent with its retention on the part of its possessor; but it involves no contract which binds the individual to service for any given number of years. On the contrary, should the medical officer find on experience that civil life has greater attractions for him than that of the army, there is nothing to prevent him from at any time tendering the resignation of his commission.

A young medical officer on appointment is usually assigned to duty for a few months at some large post where there are other officers of his department, to afford him opportunity of becoming acquainted with the requirements of the Army Regulations and the routine duties of military life. After this he goes to some post west of the Mississippi River, where he serves a tour of duty of four years. An assignment in the East follows the leave of absence which is usually taken at this time; and in after years his stations are selected so as to give him a fair share of service at what may be called desirable posts as an offset to the time spent at less desirable stations.

Candidates for appointment to the Medical Corps should apply to the Secretary of War for an invitation to appear before the Army Medical Board of Examiners. The application should be in the handwriting of the applicant, should give the date and place of his birth, and the place and State of which he is a permanent resident; it should be accompanied by certificates based on personal acquaintance from at least two persons of repute as to citizenship, character, and moral habits. Candidates must be between twenty-one and twenty-eight years of age (without any exceptions), and graduates of a regular medical college, evidence of which, the diploma, must be submitted to the Board. The morals, habits, physical and mental qualifications and general aptitude for the service of each candidate will be subjects for careful investigation by the Board, and a favorable report will not be made in any case in which there is a reasonable doubt.

The following is the general plan of the examination:

I. The physical examination will be rigid; and each candidate will, in addition, be required to certify "that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of any duty which may be required."

II. Oral and written examinations on subjects of preliminary education, general literature, and general science. The Board will satisfy itself by examination that each candidate possesses a thorough knowledge of the branches taught in the common schools, especially of English grammar, arithmetic, and the history and geography of the United States. Any candidate found deficient in these branches will not be examined further. The examination on general science will include chemistry and natural philosophy, and that on literature will embrace English literature, Latin, and history, ancient and modern. Candidates claiming proficiency in other branches of knowledge, such as the higher mathematics, ancient and modern languages, etc., will be examined therein, and receive due credit for their special qualifications.

III. Oral and written examination on anatomy, physiology, surgery, practice of medicine, general pathology, obstetrics and diseases of women and children, medical jurisprudence and toxicology, materia medica, therapeutics, pharmacy, and practical sanitation.

IV. Clinical examinations, medical and surgical, at a hospital, and the performance of surgical operations on the cadaver.

Due credit will be given for hospital training, and practical experience in surgery, practice of medicine, and obstetrics.

The Board is authorized to deviate from this general plan whenever necessary, in such manner as it may deem best to secure the interests of the service.

The Board reports the merits of the candidates in the several branches of the examination, and their relative merit in the whole, according to which the approved candidates receive appointments to existing vacancies, or to vacancies which may occur within two years thereafter. *At the present time there are three vacancies to be filled.*

An applicant failing in one examination may be allowed a second after one year, but not a third.

No allowance is made for the expenses of persons undergoing examination, but those who are approved and receive appointments are entitled to transportation in obeying their first order assigning them to duty.

Copies of examination papers used by the Board in session in New York city in October last are hereto appended as an illustration of the character of the questions submitted to candidates.

John Moore, *Surgeon-General.*
Approved: Redfield Proctor, *Secretary of War.*

War Department,
Surgeon General's Office,
Washington, D. C., *December 12, 1889.*

Specimens of Examination Papers used by the Army Medical Examining Board, in Session in New York City, October, 1889.

ARITHMETIC.

1. Change ·194 to an equivalent fraction whose denominator is 432.
2. How many inches are there in ·0625 of a yard?
3. What is the percentage of mortality in pneumonia when 13 deaths occur in 64 cases?
4. A barometer indicates 29·36 inches; what is its height in millimetres?
5. 9·17 : 13·83 :: 19·34 : ?
6. What is the cube and cube root of 3·6?
7. By what principle of trigonometry is the distance of certain stars ascertained? Illustrate by diagram.
8. How do you ascertain the solid contents of a cylinder?

GEOGRAPHY.

1. Name eight rivers of the United States that empty into the Gulf of Mexico.
2. What large lake in the United States is at the greatest altitude? Where is it? And what is its approximate elevation?
3. Give the boundaries of Montana, and briefly mention its general geographical features.
4. Describe the route you would take in going from St. Louis, Mo., to the City of Mexico, and name the States through which you would pass.
5. Mention two or three cities of Europe that are in nearly the same latitude as New York.
6. Name the capital of Saxony, of Bavaria, and of Switzerland.
7. What do you consider to be a small and what a large annual rainfall?
8. A storm is approaching, passes to the south of the observer in the Eastern United States, and out to sea. Describe the changes of the wind that would occur.

HISTORY AND LITERATURE.

1. Give the names of the principal Roman deities, and the corresponding names used by the Greeks.
2. State what you know in regard to the date and object of the Magna Charta.
3. Who was Galen? And in what century did he live?
4. Give a brief account of Mohammed. In what century did he live?
5. Who was Frederick the Great? Mention some of his victories.
6. Give the particulars of General Arnold's treason.
7. Mention the leading events in the administration of President Madison.
8. Give the names of at least eight of Shakespeare's plays, and the approximate dates of his birth and death.
9. Mention the principal works of Victor Hugo.
10. Name the best-known works of George Eliot. State what you know about this writer.

PHYSICS.

1. What are the differences between the solar day and the sidereal day?
2. What portion of the earth's quadrant does the French metre represent?
3. Does the weight of a given mass increase or diminish as you go from the equator to one of the poles? Give the reason.
4. Describe the Torricellian vacuum.
5. Describe the process of ebullition.
6. What is Newton's first law of motion?
7. What is osmosis? What effects have heat and electricity on it?
8. Which color of the solar spectrum is produced by the slowest vibration of ether waves?

CHEMISTRY.

1. Explain briefly the determination of atomic weight by means of specific heat.

2. What other elements belong in the same natural group with sulphur?

3. Describe briefly the chemistry of glass-making.

4. State the physical and chemical properties of aluminium.

5. Mention some of the analytical reactions of the proteids.

6. What are the principal forms in which nitrogen enters into organic compounds?

7. What ptomaines have been isolated? What other substances do they resemble in physiological action and chemical reaction?

8. Mention some tests for morphine.

ANATOMY.

1. Give the origins and insertions of the triceps muscle of the arm. State its actions, and describe its relations to neighboring parts.

2. Give the origin, course, and relations to neighboring parts of the ophthalmic artery, and name its branches and the parts to which they are distributed.

3. Mention the nerves that supply the tongue, and describe the special parts supplied by each, and the kind of nervous supply in each case.

4. Describe the structure, location, attachments, and relations of the ligamentum denticulatum, and state its uses.

5. Describe the structure, course, and relations of the ureter proper.

6. Describe the relations of the trachea in the neck.

PHYSIOLOGY.

1. By what means is the exchange of gases between the blood of the pulmonary capillaries and the air in the air vesicles effected, and what is the nature of the process?

2. State the differences between gastric and pancreatic digestion.

3. Describe the various modes of origin of the lymphatics within the different tissues.

4. Describe the different forms of reflex action, and give an example of each.

5. State the changes that take place in the Graafian follicle, from which the ovum has been discharged.

SURGERY.

1. Describe hospital gangrene, its treatment, constitutionally and locally. What preventive measures check its spread?

2. What are the constitutional manifestations of secondary and tertiary syphilis, and the appropriate treatment?

3. When is phlebotomy demanded?

4. Describe the operation of exposing the inferior dental nerve in its course in the body of the bone.

5. What are the indications for abdominal section or laparotomy?

6. What are the four primary forms of club-foot? Name the contracted muscles in each variety.

7. What pathological condition may follow ligation of veins?

8. Describe the various operations for stone in the bladder.

PRACTICE AND PATHOLOGY.

1. What are the anatomical characters of lymphadenoma?

2. Give the pathology of uræmia.

3. What are the pathological results of chronic alcoholism?

4. What course or courses of treatment would you pursue in cases of acute or chronic dysentery?

5. Give an account of the treatment of acute pneumonia.

6. What are the causes and the usual location of rupture of the heart?

7. Give the clinical history of chronic diffuse nephritis.

8. Give the symptoms of gout, and the differential diagnosis of gout and rheumatism.

9. What is the differential diagnosis of the eruptions of scarlatina, roseola, and measles?

10. Mention the principal animal parasites of man.

OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

1. What are the causes of severe vomiting in pregnancy? How can it be controlled?

2. What is puerperal eclampsia, the means of prevention, and the treatment in early pregnancy and during labor?

3. Describe the utero-placental circulation.

4. Give the signs of pregnancy.

5. What are common causes of abortion? State the preventive measures, and the treatment when it occurs.

6. Give the causes of tedious labor; mention two cases and the appropriate treatment for them.

7. What are the most dangerous diseases of children?

8. What are the earliest symptoms of tetanus nascentium? What are the supposed causes of it?

MATERIA MEDICA AND THERAPEUTICS.

1. Give the source and composition of eucalyptus; name its officinal preparations and dose of each; describe its physiological actions, and state the therapeutical indications for its use.

2. Give the officinal preparations of the mineral acids and doses of each; describe their physiological actions, and mention the therapeutical indications for their use.

3. Give the source and composition of guaiacum; name its officinal preparations and doses of each, and describe its physiological actions and the therapeutical indications for its use.

4. Give the officinal preparations of silver, with doses of each. Describe its physiological actions, and mention the therapeutical indications for its use.

5. Give the source and active principles of ergot; name the officinal preparations, and describe its physiological actions, and state the therapeutical indications for its use.

6. Give the source and composition of erythroxylon; name its officinal preparations, and describe its physiological actions, and state the therapeutical indications for its use.

7. Describe the physiological actions of the bromides.

8. Give the source and composition of gelsemium; name its officinal preparations and dose of each and describe its physiological actions and the indications for its use.

9. Describe the physiological actions of salicin and its derivatives.

HYGIENE.

1. What amount of fresh air per minute should be furnished for each inmate in school-rooms, audience-halls, etc.?

2. What are the effects of exercise on the lungs?

3. What are the possible disadvantages of hot-air furnaces, and how may they be overcome?

4. What is the source and the nature of organic impurities in drinking-water?

5. What can you say of the composition and of the merits of rain-water for drinking purposes as ordinarily stored?

6. What are the advantages and the disadvantages of leavened bread as an article of diet?

7. What is the relative amount of potential energy in the following proximate alimentary substances: Dry albuminate, starch, fat, cane-sugar?

8. By what ordinary means may milk be preserved for a limited time without ice?

9. In purifying an infected apartment by burning sulphur, what quantity of sulphur in proportion to the size of the room would be sufficient?

10. What, in your opinion, is the best method of disposing of excreta? Give your reasons.

Trance following Influenza.—In the *Lancet* for August 16th Mr. Nathan Raw, of the Borough Asylum, Portsmouth, England, quotes Gowers as follows: "Trance or lethargy as it occurs spontaneously is a peculiar sleep-like state from which a patient can not be roused, or can be roused only imperfectly, and which is not due to organic disease of the brain." He then relates the following case: Louisa C., aged thirty-nine, married, was admitted into this asylum on February 24, 1890. She was carried from the cab to the reception room in a helpless state. She could not sit on a chair unless held in position, without which she fell to the ground. Face unusually pale; skin bedewed with cold perspiration. Eyes closed; pupils normal. Limbs relaxed, but when placed in any position remained for some time, until overcome by gravitation. She was apparently unconscious, and could not be roused. Physically she is a stout, strong woman, with congenital talipes. Heart sounds could hardly be detected even with stethoscope; pulse could only be felt as a minute thread at the wrist, and was 45 to the minute. Respiration slow, shallow, and quiet, and was hardly discernible, 12 per minute. She was placed in a warm bath and vigorously rubbed with towels, with a hope of restoring her to consciousness. Beyond slowly opening her eyes and leisurely looking around, this had no effect, as she at once relapsed into her former unconscious state. She assumed the dorsal decubitus with her arms by her side, and unless carefully examined was apparently lifeless.

March 3d.—For the last seven days she has remained in exactly the same unconscious state, eyes half open, conjunctival reflex present. Pupils act to light. Knee-jerks much exaggerated, no ankle clonus. Apparent cutaneous anæsthesia, as pins stuck into her muscles are not felt. Urine and fæces passed in bed; has refused food absolutely, and has been fed three times a day by the stomach tube with milk, eggs, brandy, etc. Nothing seems to rouse her. Cold water, beyond a momentary reflex effect, is useless; an ice-bag to the spine and a strong current of electricity are of no avail. The nurse on special duty with her this afternoon thought she was dead. When seen a few minutes after she was apparently lifeless, breathing almost imperceptible, and heart sounds could not be detected with stethoscope. A galvanic battery applied over the region of the heart, artificial respiration, and inhalation of nitrite of amyl had the effect of restoring her vital functions a little.

7th.—She suddenly opened her eyes and looked around her, after remaining unconscious for ten days; was persuaded to take a cup of tea; only answered questions in a whisper.

8th.—This morning she was cheerful, talked quite rationally, did not know where she was or when she came; had no memory whatever for the events of the last ten days; took her food well, and sat up in bed.

May 12th.—Talks a good deal about religious matters, but has no delusions; went out to-day on a month's trial.

June 12th.—Was discharged this day recovered.

The following is the history as given by the patient: She has always been hysterical. No history of intemperance or insanity in the family. For several years she has been a diligent student of the Bible, and thoroughly believed everything therein regarding a future state. One month before admission two of her children were taken ill with influenza; after their recovery she herself contracted the disease, and had a most severe attack. The pain in her head was excruciating, and she was quite prostrate in mind and body for two weeks. After spending an anxious day she relapsed into a deep sleep, during which she had a dream, and was awakened by a loud voice, which said, "You are dead." She felt quite helpless, and lay in this state for two days, absolutely refusing all food. When visited by the doctor she informed him she was dead, and wished to be buried. She was at once removed to this asylum as insane. She remembers coming into the gates of the grounds, which she thought was the cemetery. She says that had she been put into a grave she could have offered no resistance.

Remarks.—Some very interesting clinical points arise in this most unusual case. The condition of trance is exceedingly rare in this country, Gowers having seen only four cases. Regarding the diagnosis of the case, I am not yet satisfied as to the true mental condition. Here is a woman whose physical and mental powers are exhausted with the care and anxiety of nursing her sick children; then she is herself prostrated by a severe physical illness with great mental depression. She is not predisposed to insanity either by hereditary transmission or otherwise, but she is undoubtedly hysterical and emotional. Was the woman insane? The voice which she heard was not a true hallucination, as she was unconscious from sleep at the time. Legally, she was insane without a doubt; she was not responsible for her actions, and would have probably died from want of food, the diagnosis thus resting between (1) delusional insanity, (2) hysteria, (3) catalepsy, and (4) trance. She was not suffering from catalepsy, as evidenced by the absence of muscular rigidity; nor were the symptoms purely hysterical, as shown by the utter impossibility to restore her to consciousness. Then regarding insanity pure and simple, this is negatived by the fact that she has no memory whatever for what occurred during those ten days, and the sudden and complete recovery from all the symptoms. I am inclined to think that this was a case in which, from severe nervous exhaustion and with a predisposition to emotion, the patient's mind was temporarily unhinged, and that the trance condition was due to an inhibition or arrest of action of the nerve cells, probably from previous exhaustion.

Sea Voyages.—"A correspondent writes: 'I am glad to see in the *Lancet* an article saying so much in favor of sea voyages, but I think you have omitted one very important point—viz., the very great advantages of a sailing ship over a steamship, such as the greater cleanliness, freedom from smoke, and especially the freedom from that most unpleasant oily smell of the engines, also the greater size of the cabins. I speak from experience of a voyage to Australia and back in sailing ships, from which I derived much benefit. I was lately in a steamship and was greatly surprised at the difference; go where I would on the ship, I could never escape from that oily smell of the engines. The food on the sailing ship was very good indeed.' Exigencies of space forbade a comparison of the merits of sailing vessels and steamships in the article to which our correspondent refers. The point is, however, well worthy of attention, and the advantages of a sailing vessel enumerated above are real and important. A sailing vessel is usually cleaner, quieter, and roomier (in proportion to the number of passengers) than a steamer, and on a long sea voyage the importance of cleanliness, quiet, and space can hardly be overestimated. If no other considerations had weight, it would not be difficult to lay down the rule that for invalids a sailing vessel should always be preferred to a steamer. But the question is more complicated than our correspondent's letter would seem to indicate. A sailing vessel is open to the objections that the voyage is sometimes very prolonged and monotonous, that the detention in the hot and moisture-laden atmosphere of the Belt of Calms may extend to a week or a fortnight, and is a very trying time, and that few or no opportunities are afforded for touching at ports to obtain fresh vegetables, fruit, etc. Some animals, such as pigs and ducks, thrive well at sea, and their flesh remains agreeable and nutritious; but sheep and bullocks, not to mention chickens, turkeys, etc., nearly always show more or less deterioration in the quality of their meat after a few weeks at sea. Steamships with their ice chambers can surmount this disadvantage, but it is generally more or less felt on sailing ships, above all if the voyage is very prolonged. There is another point that must be kept in view in considering this question—viz., that steamships are more and more driving sailing ships out of the trade, and that the choice among the former is very much wider than among the latter. We mention these facts in order that the *pros* and *cons* of the case may be kept before our readers, but we by no means wish to imply that steamships should generally, and as a matter of routine, have the preference over sailing vessels. . . . Much will turn upon the patient's malady, and upon his general constitutional state and usual mode of life. For serious cases (when such can be prudently sent to sea at all) a sailing vessel, always provided that reasonable comfort can be assured, will generally be preferable. Life on a steamship is too much like life in a hotel to suit such cases. Again, if the patient be specially desirous of perfect rest and quiet, a sailing vessel will best meet the case. On the other hand, if the case be one mainly requiring change and travel, if the patient likes company and must have variety and amusement, and if he can not be content without a very liberal and constantly varied dietary, then a first-class steamship will probably please him best. Some patients, again, want 'to see the world,' and take great delight in the various calls made at different ports. Such persons must remember that sailing vessels hardly call anywhere, and very commonly make the long voyage to the Antipodes in a single run. Probably a well-appointed yacht affords the best type of what is most desirable for travelers by sea; and, while such is only at the disposal of a very limited number of patients, it is possible that 'invalid ships,' which are now becoming a recognized institution, may be gradually approximated in some degree to this type."—*Lancet.*

Sugar in the Blood.—"The condition known as mellitæmia, or the presence of sugar in the blood, has long been recognized. Pavy, Ewald, Seegen, and Otto have demonstrated beyond doubt that sugar is a normal constituent of the blood, although it is present only in very small proportions; the quantity is not altered when the blood is analyzed after death. The proportion of sugar in the blood is considerably raised in cases of diabetes. In 1885 Freund examined the blood of seventy patients suffering from carcinoma, and found it to contain a large quantity of sugar, but he was unable to detect it in cases of sarcoma. Freund's experiments have not been fully verified by other observers. In the *Centralblatt für die medicinischen Wissenschaften*, 1890, No. 25, Trinkler gives an interesting account of a series of observations he has made as regards the amount of sugar contained in the blood in various diseases. He examined the blood of one hundred and nine patients, and the investigation fell into two classes: 1. Quantitative estimation of sugar and reducing substances in the blood during life, the quantity of blood required being obtained during the performance of operations. 2. In which the greater number of analyses took place after death. The diseases from which the patients were suffering were carcinoma, typhoid fever, pneumonia, morbus cordis, dysentery, peritonitis, nephritis, uræmia, etc. Sugar was found to be present in all the cases. In carcinoma the amount was very large; next came typhoid fever and pneumonia, while nephritis and uræmia exhibited the least. In the case of carcinoma the following conclusions could be drawn: 1. The blood of patients suffering from carcinoma always contained a considerable percentage of reducing substances, of which the chief was grape sugar. 2. The maximum percentage of sugar in the blood of living patients was less than the maximum obtained after death. 3. Carcinoma affecting the internal organs produced a greater quantity of sugar than when attacking superficial structures (skin, mucous membranes). 4. The degree of cachexia stood in no direct proportion to the percentage of sugar in the blood. The quantity of sugar in acute pneumonia, typhoid fever, and dysentery was about the same, and very little above the normal; while in nephritis, and especially in uræmic conditions, the quantity was below the normal."—*Lancet.*

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for August 29th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Aug. 23.	1,638,498	751	..	..	..	..	..	..	12	4	14	12	16
Philadelphia, Pa.....	Aug. 16.	1,064,277	337	..	..	..	..	..	..	14	2	2	..	16
Brooklyn, N. Y......	Aug. 16.	871,852	386	..	..	..	..	..	..	1	2	12	1	10
Brooklyn, N. Y......	Aug. 23.	871,852	369	..	..	.	..	..	..	4	2	6	4	7
Baltimore, Md.......	Aug. 23.	500,343	141	..	..	..	..	..	..	5	..	8	..	4
St. Louis, Mo........	Aug. 16.	450,000	169	..	..	..	..	..	..	4	1	3	..	....
St. Louis, Mo	Aug. 23.	450,000	.....	..	..	..	..	..	..	4	1	2	..	....
Boston, Mass	Aug. 23.	437,245	200	..	..	..	..	.	..	6	..	5	..	....
Washington, D. C ...	Aug. 23.	250,000	83	..	..	..	..	..	..	6	..	2	..	1
Cincinnati, Ohio.....	Aug. 22.	325,000	41	..	..	..	..	..	..	2	..	8	..	....
Detroit, Mich........	Aug. 16.	230,000	86	..	..	..	..	..	..	..	1	5	..	....
Milwaukee, Wis......	Aug. 22.	220,000	66	..	..	..	..	..	..	2	..	4	1	....
Minneapolis, Minn...	Aug. 16.	200,000	65	..	..	..	..	..	..	5	..	3	..	....
Minneapolis, Minn...	Aug. 23.	200,000	53	..	..	..	..	..	..	3	2	2	..	....
Rochester, N. Y......	Aug. 16.	135,000	57	..	..	..	..	..	..	..	..	..	..	1
Kansas City, Mo.....	Aug. 23.	132,000	28	..	..	..	..	..	..	1	..	..	..	...
Providence, R. I.....	Aug. 23.	130,000	70	..	..	..	..	..	..	..	..	3	..	1
Indianapolis, Ind....	Aug. 22.	129,346	28	..	..	..	..	..	..	4	..	2	..	...
Richmond, Va.......	Aug. 16.	100,000	40	..	..	..	..	..	..	4	..	2	..	....
Richmond, Va.......	Aug. 23.	100,000	35	..	..	..	..	..	..	2	..	..	..	2
Toledo, Ohio	Aug. 23.	81,650	20	..	..	..	..	..	..	..	..	..	..	....
Nashville, Tenn	Aug. 23.	75,695	33	..	..	..	..	..	..	3	..	..	..	....
Fall River, Mass.....	Aug. 23.	74,918	33	..	..	..	..	..	..	..	..	..	..	....
Charleston, S. C......	Aug. 16.	60,145	37	..	..	..	..	..	..	2	..	..	..	....
Charleston, S. C......	Aug. 23.	60,145	31	..	..	..	..	..	..	1	..	..	..	....
Manchester, N. H....	Aug. 23.	44,000	......	..	..	..	..	..	..	..	..	..	..	. .
Portland, Me.........	Aug. 23.	42,000	15	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y...	Aug. 23.	35,000	13	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.......	Aug. 15.	32,000	13	..	..	..	..	..	..	1	..	..	..	....
Yonkers, N. Y.......	Aug. 23.	32,000	10	..	..	..	..	..	..	..	1	..	..	....
Auburn, N. Y........	Aug. 23.	26,000	8	..	..	..	..	..	..	..	1	..	..	..
Newton, Mass.......	Aug. 23.	22,011	5	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	Aug. 17.	16,000	2	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	Aug. 16.	15,000	4	..	..	..	..	..	..	1	..	..	..	....

Sickness as a Teacher.—"All the circumstances of life," says the *Lancet*, "are in some sort educative. Health and happiness have their lesson of active duty to teach us if we will receive it, and so, likewise, have pain, disease, and misfortune, as lately stated by Mr. Spurgeon, a purpose of correction, a chastening and a mellowing influence within them. With some natures and moods, perhaps, it is otherwise; the sharpness of the stroke touches no mental spring but that of self-concern, but here, again, it is the wise who learns. For him these evils, for such they still remain, are also the seeds of sympathy with others in like trouble. If he be through any fault of his own accountable for them, they are in true science as in Scripture the natural recompense of evil, a protest on behalf of needful self-control which he will do well to observe. There is more, therefore, than an apparent tendency to asceticism in this doctrine of disciplinary suffering. Of course, it does not follow that the prosperous and the healthy must at some time undergo this training by reverses. The same lessons of patience, fellow-feeling, and self-restraint can be learned in other ways, and it is quite certain that the daily round and task abound in opportunities for such wholesome instruction. We are alike justified, therefore, in admitting for this purpose the frequent utility of pain, and in seeking, to the best of our ability, to limit and to destroy by suitable remedies the influence of this otherwise harsh and hurtful instructor. Health of mind and body and well-being of estate are alone consistent with perfect life as ordered by Nature's plan and the Divine will, and every purpose of training is compatible with their full possession and their proper use."

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE BLOOD AND BLOOD-VESSELS IN HEALTH AND DISEASE.

ADDRESS DELIVERED BEFORE THE OTTAWA MEDICAL SOCIETY, *May, 1890.*

BY WESLEY MILLS, M. A., M. D.,
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GENTLEMEN: Our knowledge of any subject may per- ps be regarded as a perception of relations. As these, wever, are innumerable, the great question becomes, hat relations are of the most importance? From what int of view shall we look at a subject? Necessarily this ust vary with the progress of all knowledge and with that any department under consideration.

When the period of derision and skepticism that fol- wed at once the announcement of the discovery of the rculation of the blood by Harvey had passed away, and a dy of practitioners less prejudiced than the great man's u contemporaries considered the subject, a reaction took ace. Undue attention was given the blood in all discus- on on the ætiology of disease.

In comparatively recent times the investigations of ood-pressure and kindred problems by Ludwig and his hool diverted attention unduly to that subject, and the fluence of this is evident in almost every text-book on ysiology at present extant. Believing myself that physi- ogy has been confined within extremely narrow limits, at it must in consequence suffer from the intellectual myo- a of its cultivators, I have within the past year endeav- ed to present to the student of this science a work* on new plan, and it is my purpose this evening to ask your nsideration to its advantages, which I shall endeavor to esent as applied to the subject of this address, and leave u to judge for yourselves whether this method of view- g the subject gives a wider and truer view of physiological uths than the older plan or not.

We all recognize the fact that any individual can be but differently understood apart from his antecedents; hence e importance we attach to biographical sketches of those rsons that interest us. It is really an acknowledgment the influence of the environment on the organism, both ring its own life-time and that of its ancestors.

Why, then, is not the consideration of every function the body preceded by an account of the development of e structures involved as well as by ordinary anatomical or stological details?

No advanced morphologist hopes to clear up the rela- ons of any animal group without taking its embryology to consideration. Up to the present this method has en almost wholly ignored by physiologists. Allow me to ggest in this connection a few considerations which seem put the student in the possession of a clew to otherwise ry obscure relations.

All are agreed that whatever the later history of the blood-cells, they arise in the embryonic mesoblast at the same time as the heart and blood-vessels themselves. To consider, therefore, the heart, blood-vessels, and blood wholly separately, or without a perception of their unity, is a mistake that has practical as well as theoretical consequences. When we bear this relation in mind, it is possible to understand that there may be cases in which the whole vascular system, including the contained blood, may be imperfectly developed, and with all the consequences of recurrent anæmia. There can be no doubt that any crop of blood-cells must bear relations to the preceding one, and if the original ancestors are defective, their descendants are likely to be similarly weak, apart from any unfavorable circumstances in the environment.

Until recently the functions of the white corpuscles, if considered at all in works on physiology, were dismissed in a very few lines. When we remember that the leucocytes of the blood correspond to the original indifferentiated embryonic cells, which alone have made up the entire embryo and are preserved as floating organisms with a latent capacity for further development, much light is thrown upon both physiological and pathological processes. Whatever the view that finally prevails as to their relations to invading micro-organisms, there can be no doubt that as scavengers, porters, or phagocytes their function is of great importance; yet, apart from a consideration of their origin, this can be but indifferently understood. It is well known that the undifferentiated cells of the embryo are more or less amœboid organisms; hence it is perfectly natural that their descendants should, under suitable circumstances, exhibit those qualities which recent investigators are showing more and more that they possess. The great part they play in inflammation is also more readily comprehended. In this condition there is a profound alteration in the environment, as will be shown later.

At present our positive and clear knowledge of the red cells of the blood is confined to their oxygen-carrying function; but I feel satisfied that this does not include all their work and that we must look for a very considerable enlargement of our knowledge of the range of their duties. Indeed, it would seem that we are in great danger now of going to an extreme the opposite of that of our ancestors and attributing too little to the blood, especially its cells. It is not to be forgotten that the blood as a whole is to be regarded as a tissue, and there is no more reason why this tissue should be devoid of functions than any other.

Most of our works on physiology so present the subject to the student that he has no clear ideas as to *how* the blood does minister to the tissues, though every one is ready to say at once that the function of the blood is "to nourish the tissues." In truth, some very remarkable doctrines have been taught in regard to the relations of the blood and blood-vessels. As a rule, students have the most misty notions of the relations and importance of the lymph. They know that it flows in "the lymphatics," that it gets into the blood-stream finally, that it is in some way derived from the blood, etc. But there is no clear perception of these relations, and it is impossible that there should be with the teachings that are prevalent.

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* *A Text-book of Animal Physiology.* D. Appleton & Co., New ork, October, 1890.

The books represent the lymph as passing through the capillaries; but, if any explanation of this process is given at all, it is represented as a filtration—very much of the character of that "filtration" of urine through the capillaries of the Malpighian capsules which has been so commonly taught up to the present as dependent almost solely on blood pressure.

This doctrine has seemed to me so utterly at variance with all sound biological laws that for three or four years I have been accustomed to teach in my lectures, and have recently published in my text-book, a theory which I must present to you with brevity, but which I am sure you will see places the physiologist, the pathologist, and the practitioner of medicine on an eminence from which they can view the events of the body in an entirely new light. It is simply this: *The capillaries of the body are glands.* They are glands not only in the glomeruli of the kidney, but everywhere else. So far as I know, I have been the first to teach this doctrine; I must therefore give you, at least in a general way, the reasons for my conviction.

In the first place, I should be prejudiced against any biological doctrine that would represent a living structure as acting as a mere filter, or as teaching that osmosis played any considerable part or, in the strict sense, any part at all when living structures, "membranes" or other, were concerned. There seem to be no facts that can not be better explained without such an assumption; and, even if this were not the case, it is better not to construct a theory at all, but simply confess ignorance and wait, than one which like this is radically opposed to all sound conception of living structure.

To believe that the lymph which bathes each tissue is identical in composition is to overlook the relations of the blood and blood-vessels to the tissues among which they have been developed. But the lesson Nature everywhere teaches is that things do work in relation to each other.

What a crude conception of life processes to suppose that the capillaries pour out a fluid around the cells of the tissues whose composition is not specially related to the needs or peculiarities of each one!

But the facts we do know are opposed to such a view.

All exudations or transudations are not alike in chemical composition; nor are passive exudations identical with inflammatory ones. Can osmosis explain this? Can it explain why an inflammatory exudation does not correspond with the normal tissue-lymph? Can it give a reason why there are coagulable proteids in lymph or any of the fluids that are derived from the blood at all? While the facts can not be explained by osmosis, they are all simple enough when we view the capillaries as glands—*i. e.*, as passing from the blood to the tissues, and the reverse, an elaborated fluid which varies with the condition of the cells composing the capillary and the tissue-cells that surround it. That the condition of the blood can modify the capillaries, the latter the blood and the tissues both, is to my mind clear enough. To put it otherwise: The tissue-cells around a capillary, the capillary cells themselves, and the blood are always in a sor of balanced relation. They understand each other, so t speak, and act in harmony. One can not be disturbed without affecting the other.

When a great derangement occurs, what we call inflammation arises, and, sooner or later, all the parts of this inseparable trio become involved. In inflammation we hav changes in the blood-cells, changes in the vessel-walls, an changes in the surrounding tissue-cells. The embryologica history should have led us to expect all this.

When this relation of the capillaries as secreting mechanisms is understood, many of the difficulties that surroun "digestion" and "absorption" will be removed. Tim will not allow of my developing this part of the subject a length now. In my opinion, there is no sharp line to b drawn between digestion and absorption. They are part of one great series of processes. Not only so, but the term absorption is misleading, as it suggests purely physical processes, which latter must always be dealt with very cautiously by physiologists.

If, for example, we regard the capillaries of the alimentary tract as glands, it will no longer be impossible to understand that the peptones of digestion are not represented b peptones in the blood, the great stumbling-block of phys ologists for long enough.

Intracellular digestion is not confined to invertebrate The cells of the digestive tract, those of the capillaries included, have not wholly forgotten the amœboid habits o their embryonic ancestors. They are specialized, it is tru but not wholly altered. To suppose that digestion or th physical and chemical alteration of food ends within th cavity of the alimentary tract is to overlook a large part o the truth. Food is changed there by virtue of the digestiv secretions, but all is not thus done. In fact, what is commonly termed digestion is only the beginning of a lon series of processes which go on in the cells of the structure of the tract, the capillaries included, in the blood itself t some extent, and which continue under the name of metabolism in the tissues themselves. But it is the separation and isolation in the mental conception of the student o what must be linked in one long chain that is to be esp cially dreaded in the modern teaching of physiology.

A student may throw a great part of the facts of h physiology overboard after his examination, but the influence of his teaching must last for good or evil in all h thinkings as a practitioner. That a sounder view of th processes of digestion, etc., would greatly modify practic and especially would explain present failures and successe is clear to myself. Any attempt, however, to make th evident to others must be left for another occasion.

It may, without exaggeration, be said that the applic tion of the principles of evolution to morphology has rev lutionized the teaching of that subject. But, strange enough, its great doctrines have thus far made very litt impression on physiology, especially the teaching of th subject; and my own text-book is the first and only one i which an attempt has been made to light up the student path with this theory, and you will be glad to hear that th effort has been rewarded by increased interest in physiolog on the part of my own classes during the four years of trial of the new methods of presenting the subject.

But if this is good for students that are undergraduates, may it not also prove helpful to practitioners to regard disease in the light of evolution?

Physicians have given but little attention to the subject. To this statement, however, there are at least two notable exceptions: the late brilliant Milner Fothergill, and that profound thinker, of whom we are all so proud the world over, Hughlings Jackson.

Turning to the vascular system in the wider sense (the blood and blood-vessels), by the help of evolution and embryology not only are many anomalies of vessels understood, but of the blood itself.

Does not a case of extreme multiplication of leucocytes in the blood indicate a condition at once embryonic and ancestral? In other words, is this not an example of physiological or pathological reversion? In the early embryo, leucocytes are very abundant everywhere, and in invertebrates, almost without exception, they or their equivalents are alone found, while in the lower vertebrates they are both numerous and of very much more pronounced amœboid character than in the higher. Is not this tendency, then, on the part of the higher mammals and man, under certain circumstances, to an excess of leucocytes in the blood better understood than without the explanation of evolution? Why this particular form of derangement, and not some other, if higher forms are not related by descent to the lower?

Again, in the various forms of anæmia we find red cells that are nucleated, cells smaller or larger than normal, distorted cells, corpuscles resembling the genetic marrow-cells, etc.

All these forms occur in the embryo, apparently normally; some of them are certainly transition forms. They also bear a resemblance to the red cells of lower vertebrates. Are these not clear cases of reversion to an earlier condition, both embryonic and ancestral? Even that form of anæmia in which the cells are fairly normal, excepting a deficiency in hæmoglobin, points to the lower vertebrate and invertebrate blood, which is, relatively to the higher groups of animals, poor in hæmoglobin.

Inflammation itself, both as regards the vascular system and the tissues, becomes clearer from the standpoint of evolution. The increased amœboid activity of the leucocytes, the alterations in the latter and the vessel walls permitting of the ready "wandering" of the colorless blood-cells, point to a condition of things common in lower vertebrates. Inflammation is clearly a reversion.

Reference might be made to the resemblance between the condition of things in the young mammal—in which, after birth, the usual changes that fit it to its altered environment do not take place—and the permanent state of the heart and vessels in lower vertebrates, as reptiles. However, the illustrations employed may suffice to show that evolution does concern the physiologist, the pathologist, and the physician; and, did time permit, I think I could demonstrate that such views may be made to have a bearing on the treatment of disease by the most enlightened methods. The subject has been dealt with further in its relations to medicine elsewhere.*

I shall not pursue this line of thought further at present, but leave you to judge for yourselves whether the time has come when students and practitioners should be provided with text-books of physiology in which attention is paid to general biology, comparative embryology, and evolution, with a view of giving a wider and truer grasp of the functions of those organisms with which the great art of medicine is concerned.

Original Communications.

A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS

COMPLICATED BY A

FRACTURE OF THE LAMINA OF THE FIFTH CERVICAL VERTEBRA;

A Contribution to the Physiology of the Spinal Cord.†

By N. E. BRILL, A. M., M. D.

It is so seldom that an opportunity arises in the human species to make an *intra-vitam* experiment on the spinal cord, that the following case is of unusual interest:

James G. K., twenty-six years of age at the present time. No history of neuropathies in his family. At the age of eight months made successful attempts to walk with the supporting aid sometimes of a chair and sometimes of the wall. At this period, while being weighed in the following manner—he was placed in a blanket, his head and legs dangling over the sides, the rest of the blanket being tied into a loop which was held by the hook of an old-fashioned scales—his head was wrenched by the violent oscillations of the spring of the scales. Although the age at which he made his attempts at walking was a remarkably early one, there can be no doubt as to the fact that these attempts were then frequently made by him. They were made spontaneously and without assistance on the part of his parents. After the weighing episode, however, he could make no further attempts, his failure to walk extending then until the age of twenty-two months. Nothing unusual was noticed by his parents during the months following the weighing, excepting his desisting in making further trials at walking. These he resumed at the last-mentioned period, and progressed until he walked without any support. His walk was, however, peculiar, being attended by swaying motions which gave him the name of a "toddler." From this time to his tenth year nothing of note occurred. The only fact remarked was his liability to stumble, to stub his toe in walking, and to fall whenever he encountered any obstacle like a play-toy which might happen to lie on the floor in his path. He could walk and run, the latter not as swiftly as his companions, but he could keep up his pace for longer distances than they. He indulged in all the sports of childhood, and in the aerobatic feats usually performed by boys living in the country. He could turn handsprings with great agility. At his tenth year, while indulging in the latter exercise on a load of hay, the hay not being packed or compressed, his hands sunk into it, and, in throwing his legs over in the accomplishment of the feat, his head was caught or wedged in the hay. He felt a sudden pain and shock in the neck, and remarked to his playmates that he thought he had broken his neck. He immediately proceeded to the house, and, although at that time he detected nothing unusual, he dates all the subsequent trouble to that event. Besides pain and stiffness in the back of the neck, he noticed a diminished amount of lateral motion and difficulty in rotating the head, the movement being more restricted in turning the head to the left than to the right.

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* Physiological and Pathological Reversion. *Canada Med. and Surg. Journal*, April, 1888.

† Read before the American Neurological Association at its sixteenth annual meeting.

Shortly after the accident—he can not say definitely how long thereafter—he noticed that his "ankle would move rapidly up and down" whenever he put the ball of his right foot in a certain position (ankle clonus). The same symptom appeared in the left foot about two years afterward. Until his fourteenth year, four years after the accident, his attention was directed to no other abnormal phenomenon. But at this period of his life he found that while walking his *right* "knee would give way," that is, it would suddenly bend beneath his weight, doubling up in flexion, and, unless he exercised great care, he would fall to the ground. He soon found his right leg would become tired and his gait became different. This weakness, as he describes it, in the right leg increased, the knee would bend more and more frequently, and the same phenomenon began to develop in the left knee. It was exactly two years after the first sign in the right knee showed itself that the left knee became affected. The same changes developed in this extremity as in the right. At the same time that changes were beginning to manifest themselves in the left lower extremity he detected that his right hand and forearm would quickly become tired while milking the cows. This was his usual occupation at home, and his inability to continue it on account of rapidly developing weakness in his arm alarmed him. The weakness of the right upper extremity kept step in development with that of the left lower, and when they had reached a high degree the same appeared in the left upper extremity. It was about two years after the first sign of weakness showed itself in the right upper that he detected the presence of it in the left. The latter underwent the same loss, and he found himself unable to raise his arms to a level with his shoulders. It was a difficult matter for him to button his collar to his shirt in the back; he was compelled to give his arm a swing to get his hand to his head, and it was in this way that he succeeded in accomplishing that part of his toilet. He then sought medical advice and treatment. The latter embraced almost everything between the extremes of "laying on of hands" and electricity. As to the diagnoses given, the less said the better. Dr. Spencer, of Watertown, N. Y., was perhaps the only individual who appreciated a serious organic lesion of the cord. It was he who brought him to New York for the purpose of obtaining an authoritative opinion, and for treatment. This was the history given by the patient, and, being a very intelligent young man, observant and reflective, the points elicited by subsequent examination were very satisfactory; many of his spontaneous descriptions corresponded to the course and distributions of the nerves and their functions, although the patient has no knowledge of anatomy or physiology. He mentioned, in addition to the previous signs, an inability at times to grasp objects on account of a sudden and spasmodic retraction of the arm, forearm, and fingers which forcibly drew them away from the desired object, these members of the upper extremity undergoing twists and turns, sometimes being drawn to a position behind his back. During my examination I had the good fortune to observe one of these athetotic movements.

Status præsens.—Patient is about five feet six inches and a half high. Walks with the aid of a cane, steps slowly and deliberately, each foot after leaving the ground being forcibly retracted, giving a good example of the spastic gait. In ascending stairs he supports himself with his right hand on the wall or balustrade, puts his left foot forward, his left hand on his left thigh directly above the knee, and lifts himself in this way up to each successive step. In descending he uses the wall or balustrade support, puts down his left foot upon the step and his right foot is jerked after him, step by step. This evidently shows a greater loss of muscular power in the right lower extremity than in the left.

His head assumes a peculiar position, being lowered, as it were, to an abnormal degree between the shoulders and bent considerably forward, his chin approaching his chest. A transverse furrow in the muscular structures in the back of the neck is present, and, on putting the finger therein and pressing upon the spinous processes, the fifth cervical spinous process can not be felt. It seems to have been either destroyed, perhaps by absorption, or undeveloped, by reason of a defective blood supply occasioned by the accident. When asked to rotate his head, he does so slowly and methodically, feeling each successive step in the arc described; normal rotation is interfered with to the extent that, on turning the head to the left, it describes an arc of about 30° only, to the right one of about 50°. He carries his head stiffly, avoiding all rotatory motion. He likewise bends his head forward and backward to a limited extent, but flexion and extension are more readily performed than rotation.

In speaking, he moves his lips, keeping his jaws quiet, so that his face appears to be immobile. This is done to avoid the fatigue which the muscles of the neck undergo in conjunction with the facial muscles in this act. He thus requires all the muscular power he has in supporting his head, avoiding all extra and unnecessary efforts.

On stripping him, a remarkable atrophy of certain muscular groups is observed, wasting being especially observed in the clavicular, scapular, humeral, and femoral groups.

The clavicles stand out very prominently, owing to the atrophy of the pectoralis major, the deltoid, and subclavius below; the acromial end, the head of the humerus, and the acromion of the scapula likewise appearing beneath the skin as distinctly as in a dissection.

The scapulæ show the "angel-wing" appearance, owing to the wasting of their muscular groups.

In the arm the wasting is extreme, the forearm and hand appearing overdeveloped. When questioned about the latter muscles, he stated that in them the first signs of weakness and wasting appeared after the legs had been involved, and that he noticed these signs first in the thenar and hypothenar eminences, but that these groups subsequently, together with the muscles of the forearm, increased in size, so that at the present time they are actually overgrown, although they present the same weakness. (See cuts.)

On looking at the lower extremities we are struck by the overdevelopment of the legs, the circumference of each calf being equal to that of its respective thigh in its middle third. The thighs, however, present the same atrophy which was noticed in the upper extremity, all the muscles being involved. Owing to this atrophy, the patient stands with his legs apart, and presents a marked convexity in the popliteal region, which, instead of showing a depression, bulges out to complete with the gastrocnemii a continuous convex curvature. The atrophy is greater on the right than on the left side. (Fig. 2.)

The gluteal muscles appear to be unaffected, the buttocks standing out prominently. They, however, are the seat of the same changes as were noticed in the calves. Both erectores spinæ are also involved in this hypertrophic change. As a result, the back presents a marked concavity in the lumbo-sacral region, the muscular masses of the erector spinæ rising on either side, causing a deep longitudinal, lineal furrow, as is well shown in Fig. 2.

The position of the patient is characteristic and shows the involvement of the muscles which keep the spine erect. He stands with his feet widely separated, the upper part of his trunk thrown far backward, his abdomen protruding, so that a line let fall perpendicularly from the upper dorsal spines clears the sacrum which lies in front. (Fig. 1.)

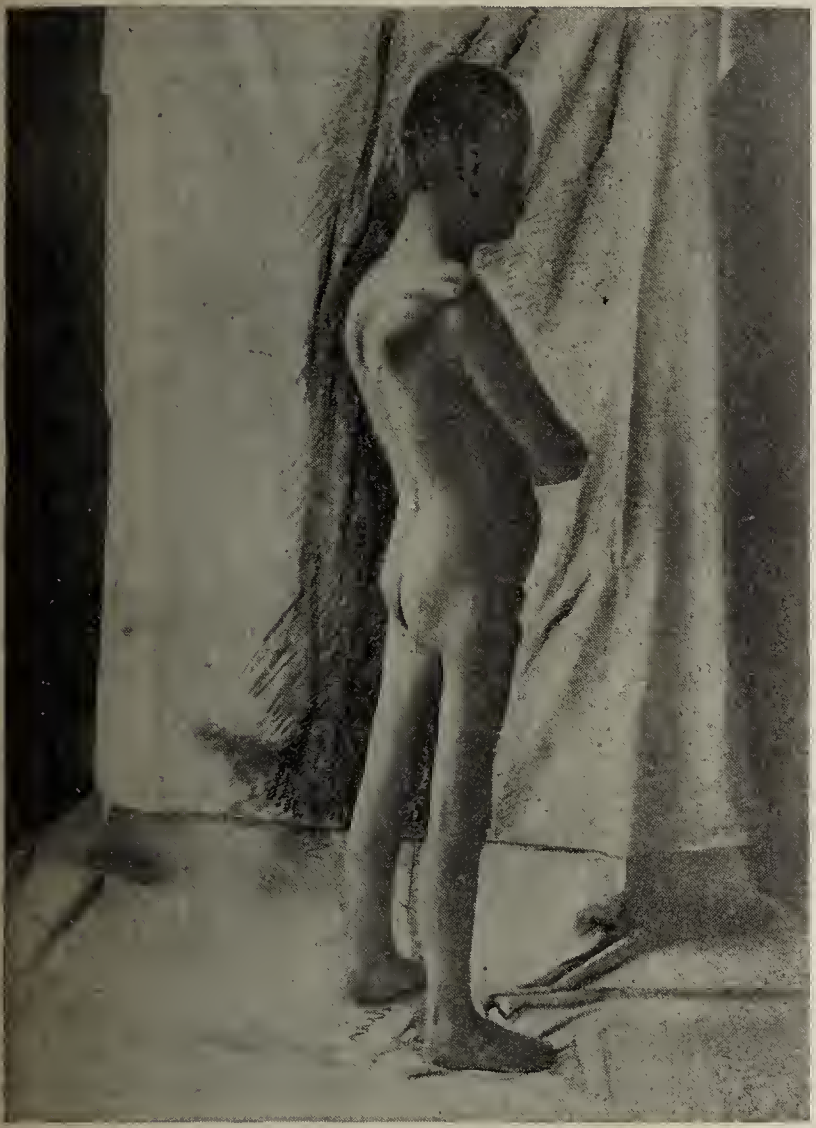

FIG. 1.

On examining the crease or furrow in the back of the neck more closely, on firm pressure over the side of the fifth cervical vertebra while the head is partly drawn back, the vertebra presents a movable point corresponding to the junction of the left pedicle and lamina; a smooth crepitus can be distinctly felt. There can hence be no doubt that a fracture of the lamina of this vertebra is present. The origin of this may be referred to the accident the boy met in his tenth year while turning a handspring. It is curious, however, that no callus can be detected and that Nature has not established a reparative process. It is hardly conceivable to my mind that motion of the head has failed to permit union. That there may be a ligamentous union is possible. It is also possible that the same cause which produced the loss of substance in the spinous process may have prevented the formation of callus and bony union. However, there can be no doubt as to the motion in the part of the vertebra mentioned, for as soon as pressure is made the patient immediately complains of a sensation as if a "cold, damp wind passed over his side." This sensation is referred in greatest intensity to the right side, and is severe or slight according to the manner in which the pressure is made on the left side of the affected vertebra. The middle line of the body dorsad limits the sensation, which is distributed over the back to the vertebral column, the shoulder, the dorsum of the arm, of the forearm, and over a finger and a half on the ulnar side of the hand; the buttocks, back of the thigh, outer part of the leg, and the entire foot. He says there is a distinct boundary between the affected part (and pointed out this limit in his description) and the part free from this paræsthesia. In the arm and forearm this boundary is well marked and corresponds to the line *a* in Fig. 5. The limit of the sensation on the trunk ventrally is not sharp, and extends but a slight distance ventrad of the axillary line. In the leg and thigh the limit is as distinct as in the upper extremity. The same paræsthesia, but to a limited degree, can be elicited on the left side when pressure is made on the opposite side of the fractured vertebra, but the limit of definition and distribution is not abrupt, and, to use the words of the patient, the paræsthesia "runs into the normal sensation, so as to leave no line by which I can say the cold stops here and the natural feeling begins. Or, in other words, the cold feeling on the right side is of equal intensity from the spine out to the limit at the point of the shoulder, down the side, taking in the back of the thigh and nearly all of the calf of the leg and the foot. On the left side the cold sensation seemed to fade and become less marked at the point of the shoulder, the arm, leg, and foot showing a decrease in the cold feeling." Let it be borne in mind, therefore, that this paræsthesia may be elicited on either side by pressure on the respective opposite side of the vertebra, but that its greatest intensity is on the right side of the body, as is its most abrupt limitation.

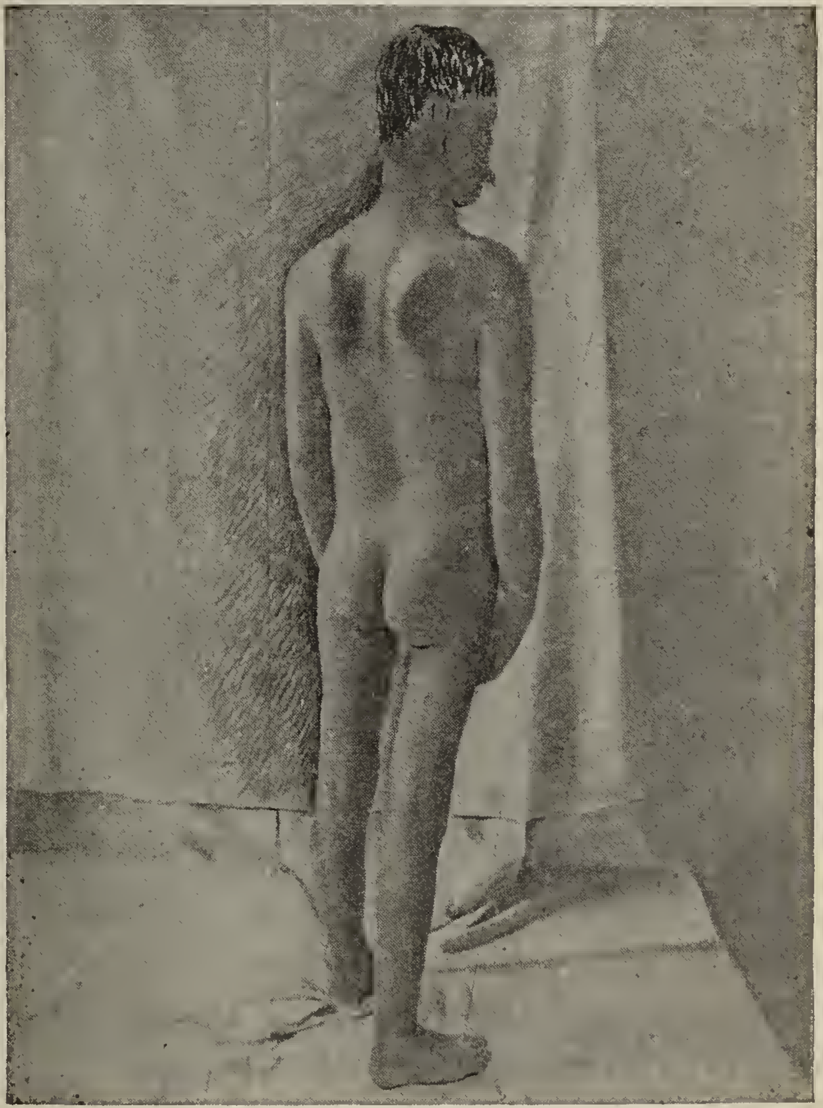

FIG. 2.

Muscular Movements.—Owing to the atrophy of the pectoral groups, adduction of both arms is greatly interfered with. He is unable to put his hand to the opposite shoulder. By allowing the arm to hang to his side and by giving it a swing, he succeeds in accomplishing this act. The deltoids being involved, he can not raise his arm to a level with his shoulder, nor can he get his hand to the back of his neck to button his collar, as was previously remarked. Opposition to extension of the forearm on to the arm is very weak, showing the triceps to be involved in the atrophy. Flexion of the arm on the forearm is likewise affected, the brachial group being the seat also of similar changes.

The muscles of the forearms and hands show a relative and real overdevelopment, the circumference of the lower part of the forearm being greater than that of any part of the lower two thirds of the arm. The thenar and hypothenar eminences are very prominent. Although the forearm and hand appear to be overdeveloped, the grasp of each hand is very weak.

The changes in the trunk and abdominal muscles have been already mentioned, as have those of the thighs and legs.

The feet are likewise involved in the pseudo-hypertrophy; the sole is greatly arched, and the first phalanges, especially of the great toes, are quite strongly flexed on to the dorsum, while the distal phalanges are bent toward the plantar surface, owing to the paretic condition of the interossei. This appearance of the toes has been named by Duchenne "*griffe des orteils.*" (Fig. 3.) The patient can not raise himself on his toes, nor can he flex his feet.

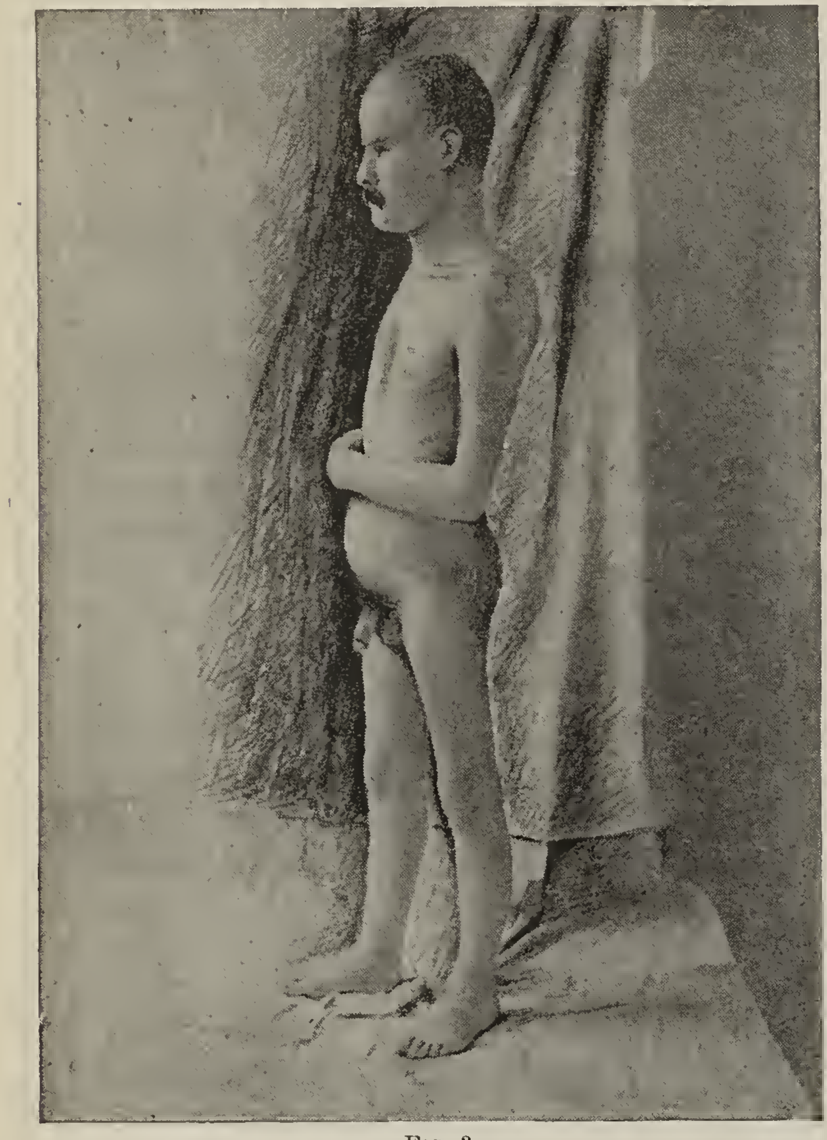

FIG. 3.

He can not cross one leg over the other, neither can he lift his legs from the ground while his thighs are extended.

When he makes attempts to sit down, unless he uses the support of his arms, he falls quickly and spasmodically into the chair. This motion is just like the closing of the blade of a knife, which returns to the division in its case as soon as the opposed force exerted by the spring is released. In rising from a seat he lifts his body by means of his right arm, places his left hand above his left knee, and completes the act by throwing his body forward, using his left hand and leg as the lifting force.

Reflexes.—There is an absolute loss of the patellar reflex on both sides. Ankle clonus is exaggerated on both sides—more so, however, on the right than on the left. Triceps reflex is also increased on both sides, but more on the right than on the left. It is remarkable that with the considerable atrophy of the triceps there should be any reflex at all, much less an increased one. The forearm is quickly extended and rotated outward when the triceps tendon is struck, and shows the preponderance of the conjoined action of the supinators.

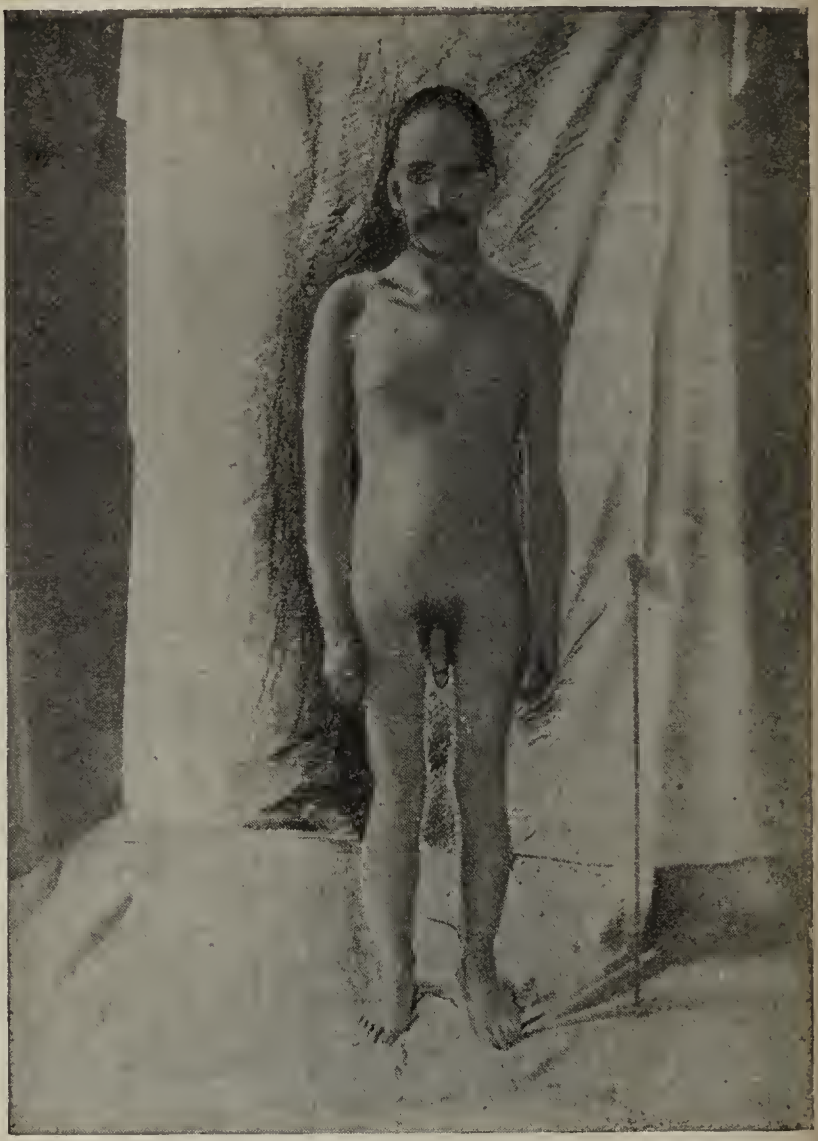

FIG. 4.

Cremasteric reflex is greatly exaggerated, the slightest touch to the skin on the inner surface of the upper thigh being accompanied by a violent retraction of the corresponding testicle. This exaggeration is equally marked on either side.

Sensations.—Tactile and general sensations are normal. Touch, pain, temperature, and muscular and space senses were all examined and were found to show no deviation from the normal. Smell, taste, and hearing are likewise unaffected. Vision is hypermetropic. He met with an accident some years ago to his right eye which resulted in a probable dislocation of the lens of that organ, the iris being retracted strongly to the right. Light and accommodation reactions are perfect.

The functions of the rectum and bladder are unimpaired.

He has normal sexual desires, and has noticed no change in his sexual functions.

There are no paræsthesiæ, with the exception of the one described, which is produced whenever pressure is made on the fractured vertebra.

No Romberg symptom.

Electrical Examination of Muscles and Nerves.—All the muscles and nerves examined, with the exception of a few which will be soon mentioned, showed similar reactions to the respective currents. These reactions differed only in degree, greater or less contraction being dependent upon the amount of healthy muscular fibers remaining in the individual muscles. Both muscle and nerve showed diminished faradaic excitability, no muscle contracting under a current whose strength measured less than half the distance of the secondary coil of a Du Bois-Reymond machine.[†]

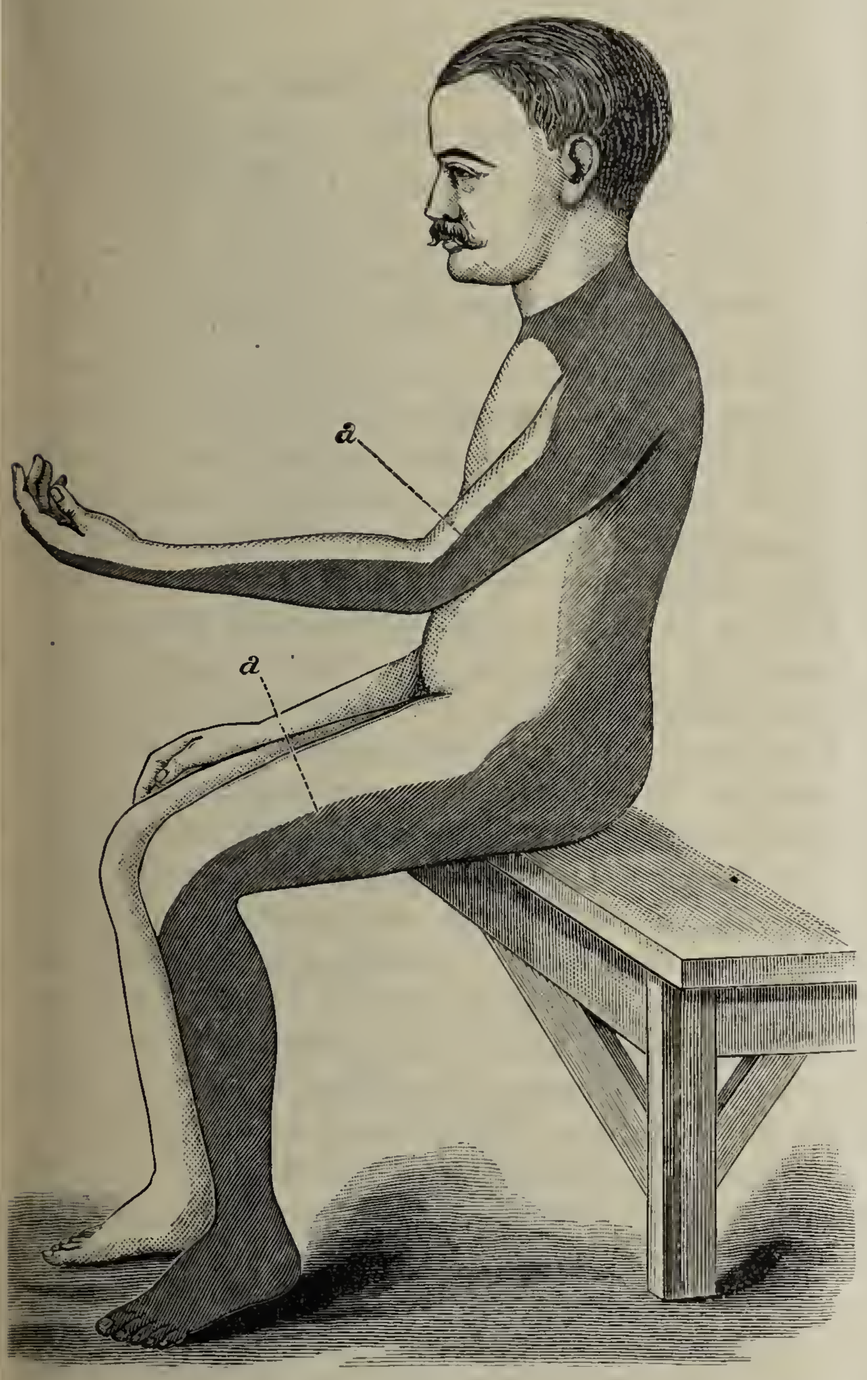

Fig. 5.[*]

To the galvanic current both muscles and nerves responded peculiarly, and showed both quantitative and qualitative changes. Anodal closure and anodal opening contractions were both stronger than cathodal closure, anodal closure stronger than anodal opening. The peculiarity, however, of all the contractions produced, whether the electrode was applied to muscle or nerve, was this: In the first place, it required the strongest currents to produce any contraction whatever, no muscle contracting under a current less than twelve milliampères, applied either to nerve or muscle; in the second place, the muscle was slow in responding, the contraction being tetanic and increasing in its tetanus after the electrode was removed, and *remaining in increasing tetanus for at least two minutes*, as timed by the watch after that removal. At the end of this time the muscle gradually and slowly returned to its previous condition. Only in the left sterno-cleido-mastoid, in the upper half of both the trapezii, and in the abdominal muscles was a normal contraction obtained. Whether the electrode was applied to either muscle or nerve made no difference in the character of the contraction, which, with the few exceptions in the muscles mentioned, was always a tetanus, but more marked when the electrode was applied to the muscle than to the nerve.

The facial muscles and nerves were also involved in this reaction, and in them the peculiarity of contraction was first noticed. The other muscles examined were the pectorals, brachials, triceps, supinator longus, pronator radii teres, the flexors of the hand, the common flexors of the fingers, the individual flexors, the extensors of the hands and fingers, the thumb muscles and interossei, the serratus magnus, the rhomboidii, the levator anguli scapuli, the trapezius, and the erector spinæ. In the lower extremity the gluteals, the adductors of the thigh, the great quadriceps, the sartorius, the flexors of the leg, the gastrocnemii, the tibialis anticus, and the peroneal group. The apparently overdeveloped muscular groups in the forearm and leg showed no difference in their contractions, and required strong currents to bring them forth. The nerves of all the muscles mentioned, where they were accessible, were also examined, either in the nervous trunk or in the branches thereof.

Ætiology.—This is, then, the history of a typical case of pseudo-hypertrophic paralysis complicated by a fracture of a cervical vertebra. There can be no doubt that the trouble in the cord began at the early age of eight months, for at that period the child gave up its attempts at walking, and did not renew them for fourteen months thereafter. Even after it could walk its peculiar gait gave it the name of a "toddler," and its many falls can only be explained on the ground of an affection involving the neuro-muscular system.

It becomes an interesting question to determine whether the accident in weighing acted as a causative factor in the production of this disease. It is very probable that the stretching which the upper part of the cord suffered in the weighing process was so extensive as to interfere with its molecular integrity. All authors agree upon the hereditary neuropathic factor in the production of pseudo-muscular hypertrophy, and none has indicated any other constantly defined ætiological factor. The absence of a neuropathic history in this case, and the fact that attempts at walking had been given up shortly after the cord suffered an injury, would lead one to infer that the injury which the cord sustained in the weighing of the child was an active agent in the production of the disease, if it were not solely responsible. However, I do not insist on this view, but simply mention it as a possibility.

Explanation of Symptoms and Signs.—The inconsistency of the various reflexes merits but a moment's discussion. The total absence of the patellar phenomenon can only be due to the great atrophy of the quadriceps extensor. And yet when we regard the fact that, although the atrophy in the triceps was almost as extreme as in the great extensor of the leg, the tendon reflex was exaggerated, we are led to think that some other factor is operative in the abolition of that of the latter. The generally increased reflexes—cremasteric, ankle clonus, triceps—are certainly consistent with the spastic gait, all of which are probably due to pressure on the cord by the fractured vertebra. However, it has been shown, and it has been my own experience, that when the lower portion of the quadriceps extensor is the seat of pronounced atrophy, especially the portion adjoining the tendon, it is impossible to elicit the reflex.

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[*] The shaded region should have been on the right side of the body, and not on the left as in the figure, the fault being due to a transposition of the drawing.

[†] This coil is made of a wire whose length is 600 m. and whose diameter is 0·225 mm. The scale of this faradaic battery ranges from 0 to 100; the secondary current produced no contraction at a distance less than 50 in any muscle examined, with the exception of the left sterno-cleido-mastoid, the upper half of the trapezius, and both abdominal obliques. These contracted with the coil at 10, 13, and 16, respectively, a normal irritability.

The athetotic contractions in the right upper extremity are a little more difficult to explain. They appear to me to be due to the loss of contractile equilibrium between the extensor and flexor group, and are elicited by the unequal contractions of the various muscles employed in the act which called them forth, co-ordinated action between antagonists being lost by reason of the unequal atrophic process. The pressure of the fractured vertebra may also be an element in the production of this symptom, as it certainly is in the production of the spastic gait.

The electrical reaction is anomalous, notwithstanding the fact that it adheres to the law of degenerative reaction. In the entire literature that has been accessible to me I can find no mention of the fact as it exists in this case; that *ordinary* contractions can not be elicited by any strength of galvanic current, the very first indication of contraction being immediately a *tetanus*, equally produced whether nerve or muscle be galvanized, but produced by feebler currents in the former than in the latter.

The symptom of most importance to us is the sensation of cold, having a definite distribution and following every pressure made upon the posterior segment of the cord.

The course and location of the temperature-sense tract are unknown. Goldscheider has made experiments to test them, and has analyzed the intrinsic relations of the temperature sense to the other cutaneous senses. The general idea seems to be that the temperature-sense tract runs together with the tracts transmitting the other cutaneous sensations. It is a well-known fact that in systemic diseases of the spinal cord, such as tabes dorsalis, the involvement of tactile perceptions follows the distribution of the ulnar and sciatic. In this case the subjective sensation of cold follows the same distribution, from which we are led to infer that the temperature-sense tract is situated in the posterior segment of the cord, and near, intermingled or identical with, the tract for tactile impressions. While this conclusion is presented as a mere supposition, this peculiar *intra-vitam* experiment proves one fact beyond doubt—viz., that, be the temperature-sense tract identical with, or regionally related to, or even remote from other tactile transmission channels, it follows the same laws in regard to peripheral distribution for the same areas which are exquisitely involved in spinal-system diseases causing anæsthesias and paræsthesias. In other words, this case would sustain the proposition that there was a homology in the distribution of peripheral sensation tracts in the cord whose general laws can not be formulated to cover all physiological contingencies. The pain-sense tract has already been proved to harmonize with this general law: that, as in cutaneous space-sense disturbances, a systemic disease must involve the posterior segment of the cord in an area which is too familiar to you for me to define; and from this case it is evident that the temperature-sense tract follows the same law as regards distribution, the sciatic for the lower and the ulnar for the upper extremity being the weaker points.

SOME CONSIDERATIONS ON THE NATURE AND TREATMENT OF EXOPHTHALMIC GOÎTRE.*

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The salient features of Graves's disease—enlargement of the thyreoid gland, protrusion of the eyeball, and acceleration of the pulse—are doubtless familiar to most physicians in active practice. I sincerely wish that our knowledge of the pathology of the affection were equally accurate. Unfortunately, post-mortem research has not done much to enlighten us on this point, so that what little has been found is in no respect decisive, either as regards the location or character of the lesion. Inasmuch, therefore, as all efforts to solve the question by direct observation in the dead-house have heretofore proved futile, we have been forced to lay hold of the less exact resources of deduction. By comparing the three fundamental symptoms of the disease with what has already been ascertained, or partially ascertained, regarding the physiology of the central nervous system, we have been enabled to construct a theory of the disease which, whether it be objectively true or not, affords, at all events, a hypothesis which may be carried to the bedside without danger to the patient. The theory to which I refer is that which ascribes the symptoms of the disease to a functional disturbance of the sympathetic system, and it is this theory which I believe we must accept until something more plausible is forthcoming.

As physiological experiment has clearly shown, the functions of the sympathetic are manifold; certainly vaso-motor, cardiac, oculo-pupillary, trophic, and secretory fibers have been pretty clearly made out. While this system of nerves throughout its entire course is interesting, it is the cervical portion which most concerns us here. Several most interesting observations have been made on this part of the nerve-plexus. In the first place, Claude Bernard has shown that division of the cervical sympathetic in animals is followed by dilatation of the vessels of the neck and head on the same side. Conversely, it has been shown that electrization of the peripheral end of the divided sympathetic causes contraction of the dilated vessels of the neck and head, with concomitant lowering of the temperature on the same side and bulging of the eyeball.

Another noteworthy observation in connection with the sympathetic is the fact that the heart's action is accelerated by irritation and retarded by division of the nerve.

Now, the purely clinical and practical objects of this paper do not admit of further digression in favor of physiological theory; nevertheless, enough has been called to mind, I trust, to show with reasonable clearness that the cceleration of the pulse, and possibly the exophthalmia, nay be explained by assuming that the sympathetic is irriated at its cervical part, or at some point above it. But ow shall we account for the goître? for, indeed, some vriters affirm that the theory of sympathetic irritation is vholly opposed to the dilated condition of the vessels in he enlarged thyreoid. To my own mind the logical diffiulty is more imaginary than real, inasmuch as one may erceive in the enlarged vessels of the thyreoid nothing nore nor less than one of the inevitable results of the inreased vascular tension. The patient complains of pulation in the head, and his eyeballs are driven forward y the distended vessels in the orbit. What wonder, hen, that compensatory dilatation takes place in the diection of least resistance, and at the point where the lood-current is strongest? Is there any other point which o well fulfills these prerequisites as the thyreoid? Most ertainly I know of no such locality. Let us conclude our easoning, then, with the admission that the theory which ooks to irritation of the sympathetic as a prominent, if not he most prominent, cause of exophthalmic goître is reaonable, and certainly not to be discarded until the evidence n rebuttal has been materially augmented.

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* Read by invitation before the Newark Medical and Surgical Society, June 19, 1890.

Symptoms.—Although exophthalmic goître is subject o a certain amount of variation in its mode of developnent, the following account of the disease is applicable in large proportion of cases :

As a rule, the evolution of the symptoms is gradual, out this is not always the case, for in some instances the ffection pursues an exceedingly rapid course, attaining its naximum degree of development in forty-eight hours. ases of this kind have been aptly characterized as "acute," nasmuch as recovery may take place in a few weeks, or even ess. The advent of the disease is often heralded by a ariety of nervous phenomena, prominent among which are udden outbreaks of anger, vague indescribable sensations n the head, and mental irritability. These manifestations nay persist for a variable length of time, but, sooner or ater, they are followed by one of the prominent symptoms f the disease. In many instances the apprehensions of the atient are first aroused by palpitations and a feeling of ullness in the head. If the pulse be examined at this time, t will be found to average from one hundred and ten to ne hundred and forty-five, or more. The condition of he circulation is specially striking in the neck, where the arotids are seen, even at an early period, to pulsate with reat vehemence.

Simultaneously with or shortly after the advent of the ardiac symptoms the thyreoid gland begins to swell, and oon the enlargement—which, however, is never very great—s quite perceptible, so that the patient resorts to a high collar r cravat, with a view to hiding the deformity. When the hand is placed upon the tumor a distinct thrill is felt, and, n auscultation, characteristic murmurs, emanating from the distended vessels, may sometimes be heard.

Shortly after the enlargement of the thyreoid the eyes begin to bulge—a condition which gives rise to a peculiar staring expression. Sometimes the exophthalmia is so great that the eyes appear to hang from the head, as if about to drop from their sockets. Such extreme protrusion is, however, exceptional. In most cases the deformity is about equal on both sides; sometimes, however, especially during the earlier stages of the disease, one eye may project more than the other.

Examination with the ophthalmoscope, after the disease has lasted some time, reveals more or less arterial pulsation and tortuosity of the veins. This at least is true in many instances. Again, while accommodation is rarely impaired, there may be slight diplopia when the patient attempts to read or to scrutinize objects in his immediate vicinity. Conjunctivitis is common, owing probably to the inadequate protection afforded by the upper lid, which, in some cases, is not depressed to the physiological limit. In this connection it is worthy of note, as first pointed out by von Graefe, that, when the eyeball is moved up and down, the upper lid does not move in concert with it. To this phenomenon considerable diagnostic weight has been assigned by various authors, who have sought to explain it in different ways. I am inclined to think, however, that too much importance has been ascribed to it, as, in my experience, it is not a very constant symptom.

Testimony is conflicting with regard to the temperature in exophthalmic goître. In my experience it is normal or nearly so, elevations of 1° or 2° F. being rather exceptional. Excessive perspiration and a subjective sensation of extreme heat are, however, quite common.

The condition of the heart is naturally a question of great importance; in some cases, aside from great vehemence of action, nothing whatever of an abnormal nature is discoverable either before or after death. In others, however, there may be dilatation of the heart, hypertrophy of the left ventricle, or disease of the valves.

Besides the symptoms just mentioned, those who suffer from exophthalmic goître are often the victims of concomitant nervous disturbances, ranging in severity from tremor, headache, general nervous exhaustion, vertigo, feebleness of memory, and insomnia, to epilepsy, hysteria, and insanity.

A certain precipitancy of speech, abruptness of manner, and unseemly haste are peculiar to almost all cases of Graves's disease.

As previously remarked, the cases which run an acute course are exceptional; as a rule, the disease lasts a long time. Periods of real or apparent improvement may occur, but relapses are prone to take place, though it is a remarkable fact that the disease is sometimes arrested, and recovery attained in the most unaccountable manner.

In the fatal cases the patient loses flesh more or less rapidly and dies of exhaustion, or the heart becomes enlarged and is ultimately unable to perform its functions; or, finally, death occurs as the result of some intercurrent affection.

Diagnosis.—When the three principal symptoms are well developed, little difficulty will be experienced in arriving at a correct opinion as to the real nature of the trouble. As a matter of fact, however, it is quite common to meet with undoubted instances of Graves's disease in which either the goître, the exophthalmus, or the cardiac disturbance is absent. In irregular cases of this sort we must rely principally upon a careful study of the collateral symptoms—the profuse diaphoresis, the headache, the irritability, the tremulousness, and other nervous phenomena—in framing a diagnosis.

Causes.—Prominent among the exciting causes of exophthalmic goître may be mentioned prolonged worry, sudden fear, anger, and, in short, inordinate emotionality in general. As predisposing factors are a weak neurotic condition of the patient and a special hereditary predisposition. Cases are quite common in which several members of the same family have been affected by the disease in the same or successive generations.

I have myself recently had a case under treatment in which I was able to trace the disease in the direct line for three generations.

Finally, the disease is much more frequent in women than in men.

Morbid Anatomy.—As has already been said, the autopsy has not helped us much in so far as the establishment of an anatomic basis for the disease is concerned. The data available are at once meager and contradictory, so that anything more than a shrewd surmise as to ultimate causation is impossible.

Some observers, like Fournier, Wilks, and Ollivier, have failed to find any noteworthy changes in the cord or ganglia of the sympathetic system, while, on the other hand, Moore, Peter, Trauble, and others have found more or less extensive alterations in these structures. The more noteworthy changes mentioned in literature are atrophy of the ganglia, proliferation of connective tissue, and consequent obliteration of nerve elements and hypertrophy of the ganglia.

It is quite useless, in the present state of knowledge, to attempt to reconcile these two phases of conflicting opinion, and I shall therefore refrain from discussing them further.

Treatment.—In view of the chaotic condition of the pathology of the disease, it is evident that very little inspiration of a practical kind is to be derived from that source. But while this is impossible, while the treatment of the disease can not be based upon its real or imaginary pathology, valuable assistance regarding its management may be derived from purely clinical sources.

Looking at the question from this standpoint, two facts of commanding importance impress themselves upon the physician. First and foremost is the phenomenal disturbance of the circulation, and, secondly, the profound constitutional impairment. No system of treatment is worthy of a moment's consideration which does not take cognizance of these.

With a view to neutralizing the morbid distribution of the circulation and improving the nutrition of the patient, I have had resource to a plan of treatment which may briefly be described as follows:

In order to prevent the excessive blood-pressure in the thyreoid, cranial cavity, and orbit, I have placed the patient in a warm bath, at least once a day, and caused her to remain there for three quarters of an hour or more. When the derivative action of the bath has seemed inadequate, I have applied elastic straps around the legs of the patient, either above or below the knee, according to the amount of derivation which seemed admissible in each case. The constriction of the bandages is never excessive, since they are adjusted in such a way as to interfere more or less with the venous circulation, but not with that in the arteries. While these precautions are observed below, the swollen thyreoid is treated with a special preparation of styptic collodion, whose constricting properties are further enforced by a carefully adjusted elastic truss. I have also bandaged the eyes during the emersion; but I am not certain that this has been efficacious, in so far as a permanent reduction of the exophthalmia is concerned. On the other hand, the application of elastic pressure to the thyreoid certainly does good, and this is more especially the case when such pressure is combined with concomitant expansion of the veins of the lower extremities, as in the method just described. A case of Graves's disease, occurring in a lady of twenty-five and referred to me about three months since, is an illustration in point. At the time of beginning treatment the circumference of her neck at the most prominent portion of the tumor was a little more than fifteen inches. The present measurement at the same spot is a trifle over thirteen inches—an appreciable reduction certainly.

In addition to the foregoing measures, I am in the habit of submitting the tumor to daily applications of galvanism, employing for this purpose an electrode of potter's clay moistened with iodine and of sufficient size to envelop the entire thyreoid. This electrode, which is most serviceable for the purpose, is connected with the positive pole of the battery, while the negative, composed of a large flat sponge, is placed at the back of the neck.

As regards the duration of these applications, I may say that I continue them for from ten to twenty-five minutes twice a day at least. Not much good is to be anticipated short of six weeks or two months. The faradaic current I do not employ, or, to speak more correctly, I do not apply it to the tumor. However, it is doubtless of benefit when used in a general way.

The question has often been asked, and will doubtless continue to be asked in future, What shall we do to regulate the heart's action? In reply I would say that our action in this regard must be largely governed by circumstances. When the pulse is rapid, say from 125 to 145, and the arterial tension notably increased, especially at the carotids, aconitine may be given with great benefit. On the other hand, where there is no notable increase in the pulse, which say at 90 is lacking in fullness, digitalis, sparteine, and strophanthus are clearly indicated.

We next come to a question of great if not paramount importance—the diet of the patient. Nothing is more certain than that neglect to improve the general nutrition of the subject will be followed by disaster. It is incumbent, therefore, upon the practitioner to pay due heed to this point as soon as the character of the disease has been made out. In my experience, a judiciously regulated but not exclusive milk diet is to be preferred. To the milk, which should be taken in quantities ranging from two to four quarts a day, bread and butter, poultry, and game in moderation may be added. A raw egg carefully beaten up with ugar and milk may be given with advantage two or even hree times a day. Some patients, however, refuse to have anything to do with the mixture unless brandy or whisky s added; and since alcohol in all its forms is absolutely contra-indicated in most cases of Graves's disease, it is perhaps better to give the eggs as an omelet or poached.

Should there be the least falling off in the appetite of the patient, bitter tonics may be given without stint.

It is hardly necessary to add that both iron and arsenic may be given with advantage, provided the stomach of the patient will bear them.

Finally, it is necessary to shield the patient from emotional excitement and mental strain of all kinds, and to divert her thoughts from herself. Simple games, musical entertainments, and a moderate amount of reading may be prescribed with confidence, as being the best means of preventing the habit of morbid introspection.

Prolonged cerebral rest I regard, too, as of the utmost importance. By this I do not mean that the patient should be kept in bed for inordinately long periods, but that while here she should remain unconscious. Only in this way is that rest of the higher nervous centers to be obtained which s so surely demanded. In this connection I would remark that in my opinion the subjection of patients who are sufferers from Graves's disease to what is familiarly known as the "Weir Mitchell treatment" is a great cruelty. Patients who suffer in this way are exceedingly irritable and restless, and to demand of them that they shall remain for days or weeks in bed, more or less wakeful for a considerable portion of the time, is not good practice. I have seen patients who have sustained great injury in this way.

The best method of affording necessary rest to the patient without irritating her is to keep her asleep at night, or so long as she maintains the recumbent posture. This may readily be done by the use of a little dexterity, without excessive resort to drugs. At the present time, for example, I have a lady under my care who has suffered from Graves's disease for about a year and a half, and who is able to sleep from ten to fourteen hours out of the twenty-four without sedatives. This she was not able to do when she first came under my care; but, by the utilization of habit and the elimination of psychical and sensory irritation, she is now able to sleep as much or more than she cares to.

53 West Thirty-eighth Street.

THE TREATMENT OF HÆMORRHOIDS.*

By CARTER B. HIGGINS, M. D.,
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From the earliest recorded period there has cumbered the earth a class of humanity whose only object in life has been to become possessed of the honest accumulations of thrifty and credulous people without returning any adequate equivalent. Individuals of this class are usually characterized by bright intellects, which they exercise exclusively in devising schemes of trickery and fraud. A few years ago, immediately following the publication of numerous so-called *Systems of Rectal Treatment*, this class almost in a body abandoned their lightning-rod, fruit-tree, grave-yard insurance, and other schemes, which had frequently brought them in contact with officers of the law, and, arming themselves with hypodermic syringes, "took the road" as specialists in the treatment of diseases of the rectum. By some preconcerted arrangement each fellow was given a special field, and, in confirmation of the adage "there is honor among 'professional purloiners,'" it seldom happened that one trespassed on the territory of another. Not long after the ex-pomologist or electrician had established his route there appeared in the public press of the various towns which he honored with his visits elaborate and extended "puffs" proclaiming the many cures he had effected in cases which had previously baffled the skill of the most eminent and expert surgeons. To these advertisements were attached the names of many more or less prominent citizens, most of whom had attained prominence by having been made victims of some patent right or other swindle directed by a colaborer of the specialist previous to changing his vocation. To morally fortify the allegation there were in most instances attached the signatures of the "atrabilious parson" and the divinity student enfeebled by too frequent offerings at the shrine of Onan. The new scheme for a time proved very profitable, and for many months at each recurring visit the schematist would find his rooms crowded with victims. But gradually the field was exhausted; finally his callers were exclusively those of his early patrons who came urging the fulfillment of his guarantee of "No cure, no pay." Suddenly the impostor disappeared; but we shall hear of him again as the originator of some new project "well calculated to deceive." I wish here to disclaim any intention to reflect disparagingly on the clergy as a body, or on reputable people engaged in the occupations assumed by confidence men. The clerical coadjutors of quacks and the rascally hordes that infest the country in the guise of honest tradesmen sustain the same relation to the honorable followers of their respective callings that the advertising specialists do to the profession of medicine.

The conditions could not well have been more favorable to his success than when the peripatetic pile doctor began his rounds. The treatment of hæmorrhoids had been almost entirely neglected by the general practitioner. Each physician had probably in the early days of his professional career applied the treatment recommended by the authorities, but one trial was sufficient to convince him that his ambition to attain fame and wealth would not be gratified in that direction. The tedious separation of the slough, the slow healing of the resulting sore, the tenesmus, strangury, and other forms of suffering experienced by the patient, together with the doctor's recollection of the fact mentioned by all authorities that death was a possible result of the operation, served to convince him that rectal surgery was not an attractive specialty. In succeeding cases it is not strange that he should exhaust the list of ointments and laxatives before advising operative interference. In rural communities, where every one is familiar with his neighbor's affairs, the result of one operation by ligature or clamp and cautery would excite such distrust in the minds of the people that it would be impossible to find one courageous enough to submit to like treatment until time had obliterated all remembrance of the first case.

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* Read before the Miami, Ind., County Medical Society, July 18, 1890.

The treatment of piles popularized by the "itinerant vagabonds" was for a time thought to be of real value, and some surgeons of national repute gave it a place in surgery by their recommendation. The talented author of one of the most valued text-books on rectal diseases, in the first edition of his work, gave the treatment by injection his unqualified approval, and advised its use in preference to all others. In a recent publication, however, he acknowledges that his hopes have not been realized and again recommends the clamp and cautery. The frequent relapses occurring among cases treated by the roving quacks was for a while thought to be owing to the imperfect and clumsy manner in which the treatment was applied; but time has shown that relapse is the rule even in the practice of educated surgeons. This treatment I believe is no longer advocated by any reputable authority. The instrument-makers will from time to time send us circulars offering what they call "rectal sets" at ruinously low prices, but after they have disposed of their dead stock the treatment of hæmorrhoids by hypodermic injections will sink into deserved oblivion in company with its unsavory originators.

The treatment of hæmorrhoids by forcible dilatation of the sphincters was, I think, first publicly advocated by the eminent French surgeon Verneuil about sixteen years ago. At that time he professed to have radically cured many cases of the most aggravated character. Immediately following Verneuil's came other statements emanating from French surgeons of the highest standing, all confirming in the most positive manner the wonderful effects of dilatation of the sphincters in the treatment of piles. That treatment so simple, advocated with such earnestness by surgeons of unquestioned ability and integrity and of world-wide reputation, should attract so little attention is indeed wonderful. Our wonder grows when we call to mind the *fundamental* fiasco of Bergeon, which we can not do, most of us, without feelings of shame and humiliation. Upon the recommendation of a comparatively obscure French doctor the profession of the civilized world provided themselves with apparatus to manufacture and force into the intestines of their tuberculous patients, whose poor emaciated bodies were already tortured to the extreme of endurance, a putrescent gas which their feeble digestive powers had already caused to be present in distressful abundance.

The more recent *testicular* experimentation following Brown-Séquard's suggestion resulted in an epidemic of pyæmia which prevailed in every city, village, and hamlet of Christendom. It must not be forgotten that these absurdities developed subsequent to the publication by Verneuil of his success in the treatment of piles.

Allingham's is about the only text-book on rectal surgery which gives the treatment by dilatation respectful notice. He says it may succeed in selected cases, but must not be thought of as a general treatment. Andrews, not having given the method a trial, says it may be desirable in cases of timid patients who cherish a horror of ligatures and instruments. (I wonder if he comes in contact with any who do not?) Kelsey barely mentions the treatment as not worthy of consideration. Since taking charge of the Wabash Railroad Hospital I have had in my service six house surgeons, graduates from four different medical colleges, all high-grade schools. These young gentlemen received appointment on account of high standing in their classes. Not one of them previous to coming here had ever heard dilatation of the sphincters recommended as a curative method in the treatment of piles. Three or four articles have appeared in as many different medical journals published in the United States advocating the treatment. With these exceptions I have failed to see it commended by either English or American authority. The following quotation from Allingham's *Diseases of the Rectum* may account for the treatment suggested by Verneuil having been so entirely ignored by rectal surgeons:

"I do not think in the whole range of surgery there is any procedure worthy of the name 'operation' which can show greater amount of success or smaller death-rate than the ligature of internal hæmorrhoids."

Dilatation of the sphincters may not, in a surgical sense, be worthy of the name 'operation.' If such is the case, I advise the "family doctor" to appropriate it, for, with the multiplied and multiplying specialties devoted to diseases affecting all organs and tissues between the fields of the alienist and chiropodist, inclusive, there is very limited territory in which he may practice.

My confidence in the superiority of the treatment by dilatation was secured by the same nature of accident which convinced the French surgeons—that is, by observing the complete and permanent disappearance of a number of large internal pile tumors in the case of a gentleman who, in connection with his other trouble, developed an anal fissure, dilatation for the cure of which also cured his hæmorrhoids. Dr. Brenton, of this society, reports similar experience, his patient being a lady who had suffered greatly both from strangulation of the tumors and great loss of blood; her fear of any operation suggested for the cure of the piles was too great to be overcome, but the fortunate intervention of an anal fissure induced her to consent to the procedure of dilatation, with the result of curing both fissure and hæmorrhoids and her speedy restoration to perfect health.

I have used no other method in effecting the radical cure of piles for the past eight years, and during that time have succeeded in curing many cases of the most aggravated character. I will not now state the number of cases nor the percentage of cures, realizing that advocates of new methods too often excite distrust by alleging too much. I know of no condition that would forbid the application of this treatment. I have applied it at almost every stage of pregnancy, in four hours succeeding labor, in patients suffering from cirrhosis of the liver far advanced, in cases complicated with enlarged and indurated prostate gland, those with urethral stricture—in fact, I know no reason, where it is demanded for relief, why it should not be resorted to. In 1888 Verneuil reported the results of his application of the treatment during the fourteen years then just passed. He alleged 98 per cent. of cures. He made no distinction in the cases, "both external and internal, old and recent, large and small, those associated with relaxed sphincters and those with the opposite condition." My experience with the treatment has been no less satisfactory than that reported by Verneuil. My percentage of cures would be increased by eliminating two cases of applicants for pensions, piles being the alleged cause of disability. The applications were still pending when they reported slight if any improvement.

The dilatation is effected as follows: Hook the thumb of your left hand and the middle finger of your right hand so as to include both sphincters on opposite sides of the anus, and gradually but forcibly separate your hands until all resistance ceases, the object being to paralyze the muscles completely. It is commonly advised to oppose the thumbs, but in a great many cases the resistance will be found so strong that it will be impossible to separate the thumbs a sufficient distance. I have in some cases found the sphincters from long contraction developed to such a degree as to give the impression of pulling on an iron ring. I have never known any bad results follow the procedure. No after-treatment is necessary, except in cases where there is complaint of smarting, which may be relieved promptly by the application of a pledget of cotton saturated with a four-per-cent. solution of cocaine. It is always advisable to perform dilatation under the influence of an anæsthetic, the A. C. E. mixture being the one I always use.

Some halting wit, "the result of a feeble hour," has stigmatized the advocates of dilatation as "bung-stretchers"; should we be so characterized, we may console ourselves with the knowledge that Ephraim McDowell was called a "belly-ripper."

A CASE OF
COMPOUND FRACTURE OF THE SKULL.

TREPHINING; FORMATION OF A LARGE CEREBRAL HERNIA; ITS REDUCTION, AND COMPLETE RECOVERY OF THE PATIENT.

By JUAN JOSÉ MARTINEZ, M.D.,
GRANADA, NICARAGUA.

Two principal objects have prompted me to publish this case: (1) The nature of the fracture and the treatment it was subjected to previous to operation; and (2) the formation of an immense cerebral hernia, with its reduction and the complete recovery of the patient:

The case has reference to J. M. A., a boy of seventeen, Nicaraguan, of a fairly healthy constitution and of good previous history and habits. While he was riding on the platform of a railway car his hat flew off, and in the attempt to catch it he lost his equilibrium and fell off the car, coming down on his head. A surgeon was immediately summoned, and found the boy in a complete state of coma, with loud breathing and slow pulse.

On examination of the head, he found a lacerated wound of about three inches, stellate shaped, and about the region of the ascending frontal and of the ascending parietal convolutions, near the median line, but to its left side. He also discovered the fractured bone pressing on the brain, but, either from want of knowledge or from indifference as to the future of the case, the boy being poor, he sutured the ragged edges, thus attempting to hide his ignorance or his ill conscience.

This septical mistake he tried to render aseptic by ordering bichloride-solution applications. This treatment was continued for ten days. The boy began to rally about three hours after the accident, finding himself speechless and with hemiplegia of the right side. I understand that his pupils were equally contracted, and that the tongue was not deflected; had severe pain in the head, and about six hours after the injury had gained his consciousness.

On the tenth day I was called to see the case, and found the head a mass of pus and hair, with an extremely offensive odor; the edges of the wound were very ragged, and the sutures had all torn through. The patient was conscious, with complete aphasia and right hemiplegia; defecated and urinated involuntarily. Temperature, 105° F.; pulse, 115; and respiration, 25. Had daily chills and profuse perspiration. In other words, there were symptoms of pus absorption. On retracting the wound, I found a large piece of bone entirely fractured off from the cranial vault and pressing greatly on the brain. Recommended immediate operation.

On April 15th, at 10 A. M., assisted by Drs. R. and F. Chamoiro, I proceeded to operate.

Anæsthetized the patient with the A. C. E. mixture and used strict cleanliness and antisepsis. Extended the lower angle of the wound down to the bone, trephined in that situation, removing the button entire, and, after biting off with the rongeur all the projecting spicula of bone, was able to remove the fractured piece without injuring the brain in the least.

Having accomplished this, I found at the left and superior angle of the wound, and lying under the skin, another piece of bone fractured off; for its removal, extended that angle of the wound and was able to extract it with tolerable ease. I found the meninges torn and the brain extremely congested, but no soft spots were found. There remained in the skull a hole of about two inches and a half in diameter.

Powdered iodoform freely on the wound and dressed it Operation lasted an hour and a half.

3 P. M.—Projectile vomiting.

5 P. M.—Urinated involuntarily; has not vomited since; no shock.

10 P. M.—Bowels moved involuntarily. ℞ Pot. brom., gr. xxx.

12 P. M.—Slept about an hour.

April 16th, 9 A. M.—Temperature, 100°; pulse, 120; respiration, 28. Dressed. From this time on the temperature, pulse, and respiration continued going down, and kept about the normal.

April 17th.—Wound begins to attain a healthy condition. Brain protrudes slightly through opening. A cerebral hernia that could not be prevented was commencing to form, and it continued growing in size until the tenth day after the operation, when it had attained the size of a man's fist. I consulted all my works on surgery. Some advised me to leave it alone to degenerate, others to cut the protruding mass. I preferred the conservative plan and left the tumor alone, using a fifty-per-cent. alcoholic solution of 1 to 3,000 bichloride. This application was continued for six weeks, as there was a marked diminution of the tumor, preserving all the time a hard and healthy consistency, and the boy was gradually gaining his speech and the use of his limbs.

Up to this time the boy has maintained the horizontal position.

June 28th.—Left his bed. The tumor has been completely reduced and a thick tissue of new formation covers the opening in the skull. The boy has gained flesh during his confinement and is feeling very well.

This result has surprised me, as I did not think the boy would live two days after the operation, such was the injury and the condition of the wound.

As to the reduction of the hernia, I do not know how to explain it. I certainly do not think it took place by degeneration, the brain maintaining such a healthy appearance all the time and the patient having regained all his functions. Whether the alcohol treatment had any influence I do not dare to say, but should be most happy to hear the result of another trial.

REPORT OF
A CASE OF ACUTE PURULENT PLEURISY.

*PLEUROTOMY, FOLLOWED BY RAPID RECOVERY.**

By J. D. SULLIVAN, M.D.,
BROOKLYN.

It is only within a comparatively recent period of time that acute purulent pleurisy has been recognized as a primary disease. At the time when many of us were receiving our medical education, we were taught that empyema or pus in the pleural sac always resulted from a degeneration of a serous or fibro-serous fluid, which had been effused into that cavity, and that the change from serum into pus was due to the admission of air either through a fistula into the bronchial tubes or through an opening in the chest wall. But parallel with the general progress of medicine and surgery our views of its pathology have materially changed, and our knowledge of the subject largely increased and better defined.

Of recent years, owing to aids given by exploratory puncture, and especially since the invention and general application of the aspirator, purulent pleurisies have been thoroughly investigated. Although Dieulafoy demonstrated that in all effused liquids in the pleural sac there were present red globules and leucocytes, and others have established the fact that the apparently serous pleural effusions generally contained pus cells, Wilson Fox, in 1877, showed that there was but little natural tendency in serous effusions to undergo purulent transformation. He expressed the opinion that the great majority of suppurative pleurisies were such from the early periods of the disease. From my own experience I am convinced that a large proportion, at least, of the cases termed empyema are primary purulent pleurisies. There is undoubtedly some peculiarity in the character of the inflammation, or in the condition of the patient, which causes the effusion to contain a sufficiently large number of leucocytes to determine its purulent properties.

The following case is of interest as proving the primary character of the disease, and illustrating the beneficial effects of early diagnosis and appropriate treatment:

Freddie W., aged seven years, of good family history, was taken sick while at school on March 10, 1890, with a very severe pain in his right side, followed by a high fever, rapid pulse, and general distress.

A cathartic was administered, and this was followed by quinine and Dover's powder in moderate doses. On the following day his temperature was 103° F., pulse rapid, and respiration considerably embarrassed by the pain in his right side.

Dullness on percussion was the only marked physical sign elicited by examination of his chest. Medicinal treatment had but very little effect in checking the progress of the disease, and he remained in the same condition for about a week, excepting that the dullness on percussion on the right side increased to absolute flatness. It was evident that there was an effusion taking place in the right pleural cavity, which was gradually compressing the lung and producing greater dyspnœa. The distress of the little patient was so great that he was unable to get much rest or take but little food, and he was emaciating quite rapidly. His temperature continued to range from 102° to 104°, and the pulse continued rapid, becoming more feeble. On the ninth day copious perspirations supervened. By the twelfth day the greater portion of the right side of his chest was absolutely flat on percussion, and the lung was evidently compressed toward the apex. The copious perspirations and rapid emaciation led me to suspect the existence of suppuration going on in connection with the pleurisy.

On March 23d I introduced an aspirating needle into the side, and confirmed my suspicions by drawing off a small quantity of pus. As the needle became clogged by the fibrous masses in the liquid, I was obliged to withdraw it.

Deeming it prudent to make another attempt to draw off the fluid and wash out the pleural sac without opening the thorax on the next day, assisted by Dr. F. C. Hickok, I introduced a medium-sized trocar and cannula between the eighth and ninth ribs in the median axillary line, and, having attached the latter to an aspirator, succeeded in drawing off a few ounces of pus, when the cannula became so obstructed by the fibrous masses that I was convinced of the impossibility of evacuating the pleural sac by that method.

With the boy partially under the influence of an anæsthetic, I introduced a scalpel along the course of the cannula, through the thoracic wall, and made a free opening about two inches in length.

The pus was ejected with such force that a portion of it was thrown a distance of at least eight feet. The quantity of pus and cheesy material evacuated was estimated at five pints. As the fluid escaped, severe coughing was induced and the lung expanded well. The pleural sac was now washed out with a warm solution of chloride of sodium, two drachms to the pint.

A large pad of paper-wool was now placed over the opening and a bandage applied. He rested better the following night than he had since his illness. The next day his temperature was nearly normal, and a cheerful and pleasant countenance replaced the picture of distress which he presented during the last week. A rubber drainage-tube was prepared by dividing the inner end longitudinally for half an inch and deflecting each lateral half to a right angle with the tube and stitching them to the side of the tube, like the letter T, as used by Professor T. G. Thomas for other purposes, and was inserted and secured with a large safety-pin. The pleural sac was daily irrigated through this tube, first with a warm biniodide solution (1 to 12,000), and this was followed by the solution of common salt for the purpose of removing the mercurial. Within the next few days there was a remarkable improvement in the little patient's condition. The copious perspirations ceased, his respiration became quite natural, his appetite returned, he slept well, and was cheerful and happy.

At the end of four weeks the drainage-tube was removed, and five weeks from the date of the operation the wound was entirely healed. On July 16, 1890, four months after his illness, I examined him carefully and found but a very slight retraction of the right side and a slight dullness on percussion. His respiration was quite normal and his general health very good in every respect.

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* Read before the Fifth District Branch of the New York State Medical Association, at Kingston, July 22, 1890.

Up to within a comparatively recent period pleurotomy has been considered a grave operation, not to be resorted to until all simpler means had failed.

It may be that the tendency at the present time is toward the other extreme, not only to open the chest but to resect a portion of a rib. While the latter procedure is often justifiable or may be necessary in some cases, I believe the majority of patients with suppurative pleurisy may be cured by the minor operation, especially if this be done in the early stage of the disease.

A prompt and definite diagnosis by means of the aspirating needle is of the utmost importance in these cases, for the earlier the disease is recognized the more effectual will be the treatment. In my opinion it is perfectly safe and justifiable to introduce into the pleural sac an aseptic needle, properly guarded, for the purpose of diagnosis. If simply serum is found, its withdrawal by aspiration will be beneficial to the patient. On the other hand, if pus is found, the earlier it is evacuated the better, and pleurotomy may be done immediately, using the needle for a guide. I have had occasion to open the pleural cavity a number of times, both for empyema and pulmonary abscess, but have never yet found it necessary to resect a portion of a rib for the purpose of drainage. When possible, I select the eighth intercostal space in the axillary line as the point of puncture.

The operation is very simple and safe, and in my experience has always been attended with good results.

TRAUMATIC DISLOCATION OF THE CRYSTALLINE LENS,

WITH INCREASED TENSION AND SEVERE PAIN; RELIEF OF PAIN AND RESTORATION OF USEFUL VISION FOLLOW EXTRACTION OF THE LENS.

By DAVID WEBSTER, M. D.,
PROFESSOR OF OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC AND IN DARTMOUTH MEDICAL COLLEGE;
SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, ETC.

Cornelius R., aged sixty, laborer, native of Ireland, came to the Manhattan Eye and Ear Hospital on Wednesday morning, April 23, 1890. He said that he had been pounding stone, and that a piece of rock broken off by his hammer had struck his right eye. He immediately found that he could not see with that eye, and lost no time in coming to the hospital. Dr. W. J. Killen, the house surgeon, examined his eye and found that the anterior chamber was filled with blood, but that no other lesion was visible. The eye retained good perception of light. The projection was good except that in the upper portion of the field it was slow. The other eye had vision $\frac{18}{200}$, raised to $\frac{20}{50}$ with a + 1 D. spherical. The patient was taken into the hospital, atropine dropped into the eye, and a bandage applied.

April 28th.—R. V. = $\frac{20}{200}$, L. V. = $\frac{20}{50}$; no improvement with glasses. The blood has been nearly all absorbed from the anterior chamber, and with the ophthalmoscope the lens can be seen to be dislocated downward, forward, and outward.

29th.—The patient had much pain yesterday and last night. The anterior chamber is very shallow, the iris being pressed forward by the transparent, dislocated lens.

30th.—The anterior chamber is almost *nil;* the pupil is small; the lens has become slightly opaque and is pressing the iris forward. There is severe pain and slight photophobia. Tension +2. R. V. = $\frac{20}{200}$, L. V. = $\frac{20}{20}$.

Under these circumstances it was evident that the dislocated lens must be got rid of or the eye would be lost. As the eye was very red and inflamed, and as ample clinical experience has demonstrated the fact that cocaine has very little if any anæsthetic effect upon inflamed tissues, the patient was placed under ether. A small upward section was made with a narrow Graefe's knife and enlarged with delicate, blunt-pointed scissors. Pressure was made with the spoon as in cataract extraction, but, in spite of the best-directed efforts of the operator, vitreous escaped and the lens began to glide slowly away. The operator, seeing that the lens was about to escape into the bottom of the eye, quickly introduced the wire spoon, and succeeded, after a second attempt, in delivering the semi-transparent lens in its capsule. Some vitreous escaped with the lens and the cornea collapsed. By delicate manipulation the edges of the wound were coaptated, a drop of a solution of eserine (gr. j to ℥j) was instilled, and both eyes were bandaged.

May 5th.—A small mass of vitreous, hanging from the corneal wound and with every motion of the upper eyelid producing irritation, was cautiously snipped off with scissors. The iris above is folded backward upon the ciliary body, making it look as though there had been an iridectomy upward.

6th.—The eye has been quiet since the protruding vitreous was snipped off. A shade has been substituted for the bandage, and the patient allowed to go home and come to the clinic as an out-patient.

8th.—The eye is clearing up and becoming white again very rapidly. Counts fingers easily.

16th.—R. V. = $\frac{20}{100}$ with $+\frac{1}{3\frac{1}{2}}$. There has been no pain since the extraction of the lens. Ophthalmoscopic examination shows floating bodies in the vitreous.

June 20th.—V. = $\frac{20}{50}$ with $+\frac{1}{4}$.

There are some points worth noticing in this case. First, it may be asked why I did not use the bident devised by Dr. Agnew and so make sure of the lens. My reply is that my experience with that instrument in cases where the lens is still transparent has not been satisfactory. In my hands it has interfered with getting the lens out *in its capsule.* In such cases, the capsule being opened and the lens broken, a good deal of soft lens matter is unavoidably left behind. In short, you can not tell when it is all out, *because it is transparent.* This transparent lens matter remaining behind soon becomes opaque, swells, and seriously interferes with a smooth recovery. Again, the rapid recovery of the eye after so much traumatism was to me something surprising. The patient had had his lens dislocated and the front of his eye filled with hæmorrhage, had suffered severe inflammatory reaction from the injury, and a week later had had the additional traumatism of an operation with loss of vitreous inflicted upon the eye, and yet at the end of a week from the operation he was discharged, his eye as well as eyes usually are at the end of two or three weeks after an ordinary cataract extraction, and with vision that would have placed it among the successes efter extraction of cataract.

The folding of the iris back against the ciliary body is an accident that I have seen before in cataract extractions where vitreous was lost.

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PROTECTIVE INOCULATION AGAINST TUBERCULOSIS.

PROBABLY the most noteworthy discovery reported at the recent session of the International Medical Congress was Professor Koch's announcement of a substance that has the power of preventing the growth of the tubercle bacilli, not only in the test-tube, but in the animal organism as well. Guinea-pigs, that are extraordinarily susceptible to tuberculosis, inoculated with this substance acquire immunity to inoculations of the tubercle bacilli; and in animals affected with general tuberculosis, inoculation with the substance will stop the morbid process without any injury to the organism. The experiments are yet incomplete, and their author very conservatively refrains from drawing any other conclusion than that of the possibility of making the body resistant to the action of pathogenic bacteria.

In this, as in other discoveries that have marked new eras in the progress of science, independent observers have touched the threshold at the same time. Koch's omission to state the character of his substance only allows us to surmise that it is similar in character to that discovered by two French observers, who established the date of their discovery in somewhat the same fashion in vogue among the philosophers of the sixteenth and seventeenth centuries. According to *Le Mercredi médical* of August 27th, Dr. Grancher and Dr. H. Martin deposited a sealed envelope with the Paris Academy of Medicine in November, 1889, containing a description of a method of treatment by which they had arrested for a long time the evolution of experimental tuberculosis in rabbits. The publicity that Professor Koch gave to the results he had obtained in making guinea-pigs refractory to tuberculosis, or in curing incipient tuberculosis, induced Grancher and Martin to publish their researches on the same subject earlier than they had intended. In all their experiments they had used the rabbit, making the inoculations by intravenous injections, obtaining thus a tuberculosis that was fatal in a short time, that made local treatment impracticable, and that gave rise to definite lesions in the liver, spleen, and lungs. As the tuberculosis thus created was always fatal, there was a solid foundation that permitted of an exact appreciation of the positive or negative results of a method that was intended to confer a refractory condition or to cure after infection.

Inoculations were made, at the same time, in protected rabbits and in test rabbits in a vein of the ear, of the same quantity of a virulent culture of the *Bacillus tuberculosis* diluted with a small quantity of sterilized water. In a series inoculated on December 31, 1889, the test rabbit died on the twenty-third day, while the protected rabbits lived from a hundred and twenty-six to two hundred and twenty-nine days after the inoculation. The necropsies were negative; the spleen was small; and the liver was free from bacilli, though in the circumlobular spaces there were some embryonic cells, constituting a trace of a tuberculous process on the way to recovery.

They attempted to find a graduated virulence as well as a loss of that virulence, and, while not mathematical, the results were sufficiently constant to be employed after the same fashion that Pasteur used desiccated spinal cords for treating rabies. The most virulent culture is designated as number one, killing a rabbit in five days or less; the cultures numbered two and three are fatal after a variable time, according to the resistance of the animal. Cultures four, five, and six are less fatal, while cultures seven, eight, nine, and ten decrease in strength and do not affect rabbits.

A rabbit is inoculated in a vein of the ear with half a Pravaz's syringeful of a culture diminished in virulence to number six. In a week culture number three is injected, and this is repeated in nine days; two weeks later culture number two is injected, then, nineteen days later, culture number one. After inoculation with number one the animals usually die, though not so quickly nor with such severe lesions as the test rabbits inoculated at the same time. If the inoculations stop at number two, the rabbits live for months thereafter.

Very justly, these experimenters believe that they have succeeded in giving to rabbits a prolonged resistance against sure and rapid experimental tuberculosis, and also in conferring an immunity against that disease, the duration of which remains to be determined. The probable benefit of these discoveries to humanity is so patent that comment is supererogatory.

THE REPUTED CASE OF CHOLERA IN LONDON.

SOME alarm was felt throughout this country when, some days ago, the telegraph announced that a case of Asiatic cholera was reported from London. The last English mail brings the detailed history of the case. According to the *Lancet*, the patient, a sailor of the steamship Duke of Argyll, left his vessel at 5 P. M. on the 10th of August in good health. He went to a boarding-house in Whitechapel and continued well until late in the following day. Shortly before midnight he was seized with vomiting and purging, but did not seek medical attendance. On the following morning he went out, was again attacked with the same symptoms, became very weak, and was taken to the Poplar Hospital, where, on admission, he was found to be suffering from marked collapse, cyanosis, cramps, and violent vomiting. Although the symptoms pointed to Asiatic cholera, there was nothing incompatible with the diagnosis of severe so-called English cholera, or cholera nostras; nevertheless, every possible sanitary precaution was taken. No other cases of a like nature had occurred on the voyage, and none have since appeared. The patient recovered under appropriate treatment.

Another explanation might be given of the group of symptoms observed in this case. Arsenic poisoning presents a clinical picture scarcely to be distinguished from that of cholera, and on reading over the report of the house-surgeon of the Poplar Hospital we were struck with the resemblance of the main features of the case to those of arsenic poisoning. The cyanosis, the sunken eye, the purging and vomiting, all are present when an overdose of arsenic is taken, and it is just possible, when we take into consideration how frequently such accidental poisonings occur, that the food the sailor took after landing may have contained some such toxic agent. At all events, it appears strange that, when every sanitary precaution was taken, no chemical analysis was made of the food or of the excretions. Possibly the next mail may bring us the particulars of such an examination.

MINOR PARAGRAPHS.

THE GUILD OF ST. LUKE.

The *Lancet* proposes that the medical profession shall have an annual Sunday for the public observance of religious duty in relation with St. Luke's Day, October 18th. The proposition includes church attendance on the Sunday immediately preceding or following that day, with some form of discourse or teaching from the gospel of "the beloved physician" and a collection for some benevolent object especially binding upon medical men. This ceremonial should not be limited, it suggests, to any one church, and it is not best perhaps that it should be grouped together with the Guilds of St. Luke, since the term guild is to the minds of some a source of irritation and antagonism. The *Lancet* explains that, if a free and wide organization could be made in the name of St. Luke, many physicians would attend upon their own saint's day who can seldom, in the whole year's round, find for themselves a day of rest, and who seldom enter at the church, or meeting-house, or chapel door. There are many who stand ready to make sacrifices in order to gather with their fellow-practitioners and who would welcome this proposed Sunday anniversary. Another advantage is hinted at, the fact of bringing about a closer bond of union between medical men and clergymen and ministers, so that they may know and appreciate one another better and work together better at the bedside, as they so often have occasion to do.

THE CENSUS OF 1890.

In addition to having been made ridiculous by an abortive attempt to collect statistics that were not wanted by means of an inquisition that the people would not tolerate, the census of 1890 seems likely to pass into history as the first United States census that has not been generally trusted. The Board of Health of the city of New York has lately brought to light presumptive evidence that the population credited to the city by the Census Bureau is smaller than its actual population by at least a hundred thousand, and this is only one of many instances in which the accuracy of the June enumeration has been challenged on reasonable grounds. The board's interest in the matter turns on the effect that the census of the city will have, if accepted, on its apparent death-rate, which has for many years exceeded its real death-rate, for reasons that we have pointed out from time to time. The board expects to prove the justice of its contention by an enumeration undertaken by itself in certain selected districts, and then demand a recount at the hands of the Government. What is to be thought of a census bureau that seeks to obtain statistics of the morbidity of a particular few days, while at the same time, by the blundering shown in its legitimate work, it vitiates the vital statistics of the greatest city of the nation?

THE MEMORIAL HOSPITAL AT JOHNSTOWN.

The final report of the Johnstown Flood Relief Commission gives an account of the disposition of the $3,740,000 that was poured through their hands. One paragraph of this document refers to the early, constant, and yet unended medical relief that had its origin in the great calamity. It is not generally known that the sum of $40,000 has been set apart for the construction and equipment of a memorial hospital, and that a committee of the commission is now engaged upon the work. This hospital, when completed, will replace that which was established by the Red Cross Society of Philadelphia and continued by its medical staff until late in the autumn of 1889, when it was transferred to the charge of the local profession. This has been and continues to be a most useful measure of relief. The commission has been moved to the construction of the Memorial Hospital by the evident necessity that during the present generation, at least, there shall be medical aid to many survivors of the shock and exposure and injuries of the great flood. The motive was undoubtedly a sound and wise one, but the subsidy might have been made larger without detriment to its efficient operations.

THE LATE DR. MATTHEWS DUNCAN.

A telegraphic dispatch brings the sad news of the death, at the age of sixty-four, of this very eminent obstetrician and gynæcologist, which took place at Baden on the 3d inst. Matthews Duncan was born at Aberdeen in 1826, and educated at the grammar school of that town, and at Marischal College and University, completing his studies at the University of Edinburgh and afterward at Paris. From the outset of his career he took a leading position in the profession. He was associated with the late Sir James Y. Simpson in the investigations leading to the discovery of the anæsthetic properties of chloroform, and contributed largely to the diffusion of knowledge concerning the drug. In 1860 he, with some others, founded the Edinburgh Royal Hospital for Sick Children, which is now one of the largest and best institutions of the kind in the world. In 1853 Dr. Duncan began his career as a teacher of midwifery and the diseases of women and children, in connection with the Surgeons' Hall Medical School, and made for himself such a reputation that when Sir James Y. Simpson died, in 1870, Duncan was the candidate favored by the profession for the chair of midwifery in the University of Edinburgh, and his claims were supported by 420 former and present pupils. His chief opponent was Dr. Alexander Russell Simpson, the nephew of the late professor, who had been a successful obstetric physician in Glasgow, but who had never delivered a systematic course of lectures in midwifery. Duncan was supported by the profession, Simpson by the laity; and, as the townsmen, who, as curators of the University, had a large influence, voted together for Simpson, he was successful in obtaining the nomination to the chair. Few medical elections ever caused so much feeling. Indignation meetings were held in London and largely attended by the alumni of the university, while the induction of the new professor was made the scene of a serious riot by the indignant students, with whom Dr. Matthews Duncan was very popular. In 1877 Dr. Duncan accepted the chair of midwifery in the Medical School of St. Bartholomew's Hospital, and moved to London, where he immediately took an enviable position as a consultant, gaining the love and respect of his professional brethren as well as that of a large number of patients. Besides numerous articles contributed to the journals of the day, Matthews Duncan was the author of works *On Perimetritis and Parametritis*, *Researches in Obstetrics*, *Fecundity, Fertility, Sterility, and Allied Topics*, *On the Mortality of Childbed and Maternity Hospitals*, and many others.

THE CATSKILL MOUNTAINS.

Dr. William B. Atkinson, of Philadelphia, has been enjoying an outing in the Catskills, and writes to the *Journal of the American Medical Association* as follows: "I dare to offer to your readers from the lofty Catskills, and at about the highest point in the range, some thoughts on mountain scenery and health combined in place of a didactic or clinical lecture. The rare atmosphere united to the grand scenery gives one a feeling of exhilaration which lifts him above all thoughts of disease or its concomitant medication. Even hygiene may almost be ignored, as health here really runs itself. We are so often treated to the phrase 'the Switzerland of America' that the term seems to mean nothing, but for grandeur of mountain scenery, by which humanity lapses into nothingness, this particular portion of New York surpasses everything on this continent. Few of the hundreds of thousands of people living within a radius of two hundred and fifty or three hundred miles in the teeming cities of New York, Brooklyn, and Philadelphia are aware of their proximity to such wonders of nature, and that within half a day's journey they could gratify their sight with a view eclipsing all that we are taught to regard as accessible only after a long and fatiguing sea voyage or railroad trip."

A PREMIUM ON POPULATION.

At the last session of the Legislature of the Province of Quebec a bill was passed authorizing the Government to offer a reward of one hundred acres of crown lands to the fathers of all families of twelve or more living children. The prolific character of the French Canadian *habitant* of the rural districts is proverbial, and no sooner was the bill passed than applications for the one hundred acres came pouring in with alarming rapidity. Up to date no fewer than 1,250 fathers whose quivers are full have presented their claims, and the Premier has been obliged to establish a special office in connection with the Department of Agriculture with a superintendent whose duty it is to investigate the claims, which must be supported by the *curé*, the mayor, and the doctor of the place. The cause of this high birth-rate among the agricultural classes of Lower Canada lies in the fact that early marriages are the rule; added to this, the people lead a healthy life, morally and physically, and, though ready money is scarce, wholesome food is plentiful. This bill, which has now become law, will tend to keep the members of large families at the work of agriculture, and while it will act as an *encouragement des autres*, will powerfully assist in the population of the unsettled districts.

SO-CALLED DELTOID NEURALGIA.

In the *Centralblatt für Chirurgie* for August 9th, Dr. D. Kulenkampff, of Bremen, remarks that the name deltoid neuralgia is unhappily applied by Golding-Bird, in *Guy's Hospital Reports* for 1889, to a rather commonly observed pain at the point of insertion of the deltoid muscle when the arm is raised, especially above the horizontal attitude. The pain is sometimes such as to give rise to a disability that may be mistaken for paresis. It almost always depends on some injury, which often is not serious, that leads the patient to fix or disuse the arm for a few weeks, during which time the neighboring muscles shrink, while a prominence of the deltoid is caused by an accumulation of blood and lymph beneath it, inducing irritation of the terminal twigs of the circumflex nerve when movements are attempted. Sometimes the trouble seems to be rheumatic. Golding-Bird recommends passive motion with the scapula fixed, massage, and blisters in the treatment. Kulenkampff, who considers blistering uncalled for, has found faradization a very effectual remedy.

A NEW ANTIDOTE TO CHOLERA.

According to the *British Medical Journal*, M. Roux has tried to cultivate the cholera microbe of Koch in an infusion made from the refuse of malted barley left after extraction in the brewing of beer. It is a liquid in which nearly all other microbes grow well, except the one above mentioned. This not only will not thrive in it, but when immersed in it is quickly killed. He has therefore suggested to the *Société des sciences médicales* of Lyons that the infusion might be of use in the treatment and prophylaxis of cholera.

THE STARCH POULTICE.

In *La Médecine moderne*, M. Brocq remarks that the starch poultice is almost always badly made. He then gives the following directions for making it: The starch should be blended thoroughly with precisely the right quantity of tepid water to form a paste. Boiling water is poured on to the paste, and the mixture is left on the fire for about a minute, being stirred briskly so as to make it quite homogeneous. It is then spread on tarlatane that has previously had the stiffening soaked out of it.

OVERCROWDING OF THE PROFESSION IN AUSTRALIA.

The *Australasian Medical Gazette* repeats its warning of three years ago to practitioners in older countries "not to think that Australia is still the Eldorado for medical men it once was." On the contrary, it states, the competition is perhaps even greater there than in Europe and the United States.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 9, 1890:

DISEASES.	Week ending Sept. 2.		Week ending Sept. 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	42	11	30	10
Scarlet fever	17	1	17	1
Cerebro-spinal meningitis	1	0	1	1
Measles	52	10	78	9
Diphtheria	52	16	43	14
Varicella	9	0	0	0

The American Gynæcological Society will hold its fifteenth annual meeting in Buffalo, N. Y., on Tuesday, Wednesday, and Thursday, the 16th, 17th, and 18th inst., under the presidency of Dr. John P. Reynolds, of Boston. The programme includes a discussion on The Diagnosis, Pathology, and Treatment of Extra-uterine Pregnancy, by Dr. A. W. Johnstone, of Danville, Ky., Dr. M. D. Mann, of Buffalo, Dr. J. M. Baldy, of Philadelphia, and others; Under what Conditions can Electricity be of Positive Service to the Gynæcologist? by Dr. A. F. Currier, of New York; On the Question of Ampèrage in the Treatment of Fibroid Tumors by Electricity, by Dr. W. C. Ford, of Utica, N. Y.; In Memoriam—Dr. William H. Byford, by Dr. E. C. Dudley, of Chicago; Vaginal Fixation of the Stump in Abdominal Hysterectomy, by Dr. H.

T. Byford, of Chicago; the president's address; Injuries of the Uterus during Labor, by Dr. A. J. C. Skene, of Brooklyn; Is the Mortality after Gynæcological Operations affected by Climatic Influences? by Dr. H. C. Coe, of New York; Cephalæmatoma, by Dr. H. A. Kelly, of Baltimore; Drainage after Laparotomy, by Dr. T. A. Ashby, of Baltimore; The Relative Antiseptic Value of the Biniodide and Bichloride of Mercury, by Dr. Charles Jewett, of Brooklyn; A Modification of Tait's Operation for Laceration of the Perinæum through the Sphincter, by Dr. H. T. Hanks, of New York; Measurements of the Uterine Cavity in Childbed, by Dr. W. L. Richardson and Dr. A. D. Sinclair, of Boston; Cancer of the Uterus in the Negress, and Physometra due to Cancer of the Uterus in the Negress, by Dr. H. A. Kelly, of Baltimore; Laparotomy for Intrapelvic Pain of Sixteen Years' Standing, by Dr. T A. Ashby, of Baltimore; a paper (title not announced), by Dr. E. W. Jenks, of Detroit; and an exhibition of new gynæcological instruments, by Dr. Hanks and Dr. Kelly.

Society Meetings for the Coming Week:

MONDAY, *September 15th:* Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *September 16th:* American Gynæcological Society (Buffalo, N. Y.—first day); Medical Society of the County of Kings; Ogdensburgh Medical Association; Medical Society of the County of Westchester, N. Y.; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Baltimore Academy of Medicine.

WEDNESDAY, *September 17th:* American Gynæcological Society (second day); Medico-legal Society; Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medical Society of the County of Allegany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark).

THURSDAY, *September 18th:* American Gynæcological Society (third day); Metropolitan Medical Society (private); New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *September 19th:* Chicago Gynæcological Society; Baltimore Clinical Society.

SATURDAY, *September 20th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 15, 1890.

The President, Dr. A. L. LOOMIS, in the Chair.

The Auscultatory Percussor.—Dr. LOUIS L. SEAMAN exhibited and explained a new percussor, designed and arranged by him. Some phonographic reproductions of notes previously elicited in auscultating a chest added interest to the description of an ingenious instrument.

Spinal Surgery; a Report of Eight Cases.—Dr. ROBERT ABBE read a paper with this title. He said that his remarks would not be confined to giving a rose-tinted picture of startling achievements of new surgery, but rather to a serious review of some of the grave cases of spinal troubles requiring surgical interference which had of late come under his care. The patients had all been previously subjected to prolonged medical treatment, and were, when referred to the speaker by the physicians or neurologists, in almost a hopeless condition. The popular idea among physicians had been that the spinal cord was more inaccessible to the surgeon than the brain, because of its irregular bony coverings and the hæmorrhage from the venus plexuses that enveloped it, and that injuries and diseases of it were to be looked upon hopelessly unless Nature kindly assumed to work unexpected recoveries. It was from the doomed cases of paralysis of the lower half of the body, and some other spinal troubles, that an effort was being made to cull out some cases which, heretofore neglected, might yield good results. The eight cases might be divided into four groups: (1) three of paraplegia from fracture; (2) one from early curretting of a vertebra for Pott's disease; (3) two of tumors of the vertebral canal with paraplegia; and (4) two of intradural section of some of the posterior roots of the brachial plexus for neuralgia.

CASE I. *Fracture of the Spine between the Eleventh and Twelfth Dorsal Vertebræ, with Complete Paraplegia, Anæsthesia, and Incontinence.*—Operation was performed eleven months after the accident. R. W. G., aged twenty-seven, merchant. The patient had enjoyed good health until May 19, 1888, when he had fallen from a platform twenty-one feet high, while pushing off a large beam. He fell with the timber on sawdust-covered ground, receiving scalp wounds, but it was impossible to say whether the timber had struck him or not. He was unconscious for three hours, and was completely paralyzed and insensitive below the waist when he recovered. Efforts were made, under ether, to straighten the fracture deformity of the spine by extension and manipulation, but nothing was gained. A bedsore had formed at the site of the spinal deformity, and a water bed was obtained. At first it was filled with cold spring-water. This caused the patient so much suffering that, on being placed upon it, he had fainted and had remained unconscious for hours. Complete incontinence of urine had been present from the first. Diarrhœa was succeeded subsequently by complete inaction of the rectum. Three months after the accident the patient had resorted to a wheel-chair and attended to his business, this being the condition when he was referred to the speaker. On April 12, 1889, the operation was performed. The method pursued being typical, it was given in detail, to prevent repetition in the other cases. The back was shampooed the evening before, and a damp sublimate dressing kept applied until the moment of operation. The patient was laid prone, but with one shoulder raised by a sand-pillow, favoring easier respiration and inclining the back toward the operator. A free incision was now made parallel to the spine and half an inch to one side, cutting the longissimi attachments from one side only, and being carried clean down to the laminæ at the second or third pass of the knife. To approach the fracture between the eleventh and twelfth vertebræ the incision was made from the eighth dorsal to the first lumbar spine. The laminæ were now cleared of muscles, which were drawn outward by retractors, and the ligaments divided above the spines of the eighth and below the eleventh, thus isolating a block of four spines, whose bases were then severed from their arches by stout cutting pliers. This manœuvre at once allowed a retraction of the entire block of connected spines with their muscles still attached on one side, and the entire breadth of the spinal arch was thus exposed without sacrificing the overlying tissues. A pair of slightly curved rongeurs was now applied to the lower edge of one lamina, and with ease the entire breadth was quickly gnawed away. Then the arches of the tenth, eleventh, and twelfth were treated in the same manner, exposing the clean spinal cord to the extent of two and a half inches. The twelfth dorsal vertebra was found to have been displaced backward, the fracture running through the articular facets, the pedicles, and laminæ. The cord was compressed between the arch of the eleventh above and the upper lip of the body of the twelfth below; the intervertebral cartilage had been ruptured. In half a minute after the cord had been released from its flattened state, the bone-pressure area being only half an inch deep, the dura became quite as round as it was above and below this point, and presented a perfectly normal appearance, except that at the upper portion it pulsated. The speaker emphasized this fact because in many of the cases reported the cord had appeared normal, and therefore the dura had not been opened. The wound was then irrigated and dried, and the dura slit up for two inches. Adhesions of various density were found within, attaching the meninges to the dura, forming a complete circular dam, which shut off the upper from the lower part of the canal. Only an ounce of clear spinal fluid escaped, when the head was depressed below the level of the spine. The veins of the cord were not distended, and the adhesions were broken up with very little force. The cord was normal in thickness above the involved part, then, by a sloping rather than abrupt change, it merged into a flattened band for three quarters of an inch, retaining its breadth, but less than half its thickness, the principal atrophy seeming to be in the posterior columns. Throughout this flattened portion the white fasciculi of the cord could be traced continuously, so that there was no abrupt break in its continuity. Before the operation it had been proposed to the patient that if the cord was found to be destroyed within narrow limits, and apparently sound above and below, it might be excised and the fresh-cut ends sutured. Though told that this had never been done, he had accepted the experiment. It proved to be an impossible operation, however, in this case; the speaker had tried to approximate the sound cord on either side of the damaged part by traction made with tenacula imbedded in the meshes of the membranes at such points as would have been available for sutures. There was but slight latitude of motion vertically. Excision of more than a scant quarter of an inch would have made it impossible to approximate the ends by sutures that would not tear out. The damaged cord in this case being of three times that length, and no further repair being possible, the dura was sutured by fine catgut. The displaced spines were brought into line and sutured by heavy catgut to their neighbors above and below. The fascia investing the muscles then received two or three interrupted catgut sutures, with gaps for drainage, and finally the skin was drawn partly together by a few catgut sutures not tied but left for use at the next dressing. No drainage-tube was applied, but a piece of protective, three inches wide, was laid over the wound, the skin edges being left a quarter of an inch apart so as to allow of drainage from the deep portion. The investing antiseptic dressing was covered by a plaster jacket covering only the back like a turtle-shell, and secured by an enveloping Canton-flannel binder pinned in front. In forty-eight hours the dressing was changed. Drainage had been perfect, the wound had healed except the skin, the sutures of which were now brought forward and tied and a final dressing applied. From the time of the operation he had had no pain in the back or extremities. The wound had healed primarily, leaving only a linear scar. He had remained in the hospital for three weeks; there had been no fever or other disturbances; his condition had been watched since the operation, and there had been no improvement in motion or sensation. After returning home, the patient had written that for six weeks there had seemed to be some improvement, but in a recent letter, quite a year since the operation, he admitted having gained nothing. About six weeks after the operation he had passed through a curious two months' illness of the nature of trance; he had come out of this abruptly, and was in every way mentally himself again. This condition was judged to have been an effect left by reaction after two months of exalted excitement and harboring the "exhilarating sentiment of hope," followed by swift appreciation of the unchanged paralysis, and that it was only one of the curious hysterical manifestations occasionally connected with spinal disturbances.

Case II. *Fracture; Paraplegia below the Eleventh Dorsal Vertebra; Duration, Two Years and a Half.*—G. W. L., aged twenty-seven years. In October of 1886 the patient was thrown from his horse and struck his back across a stick on the ground, injuring the spine at the junction of the dorsal and lumbar vertebræ. Instantaneous and complete paraplegia resulted below the waist, with paralysis of the bladder and rectum. He had lain where he fell, exposed to sleet and snow, for a day and a half before he was discovered. He was carried to a farm-house and restoratives were administered; bottles of hot water were applied to his feet—so hot as to cause blistering, which resulted in gangrene. After three weeks he was removed to his home, when it was found necessary to amputate both legs below the knees. The bladder was catheterized for a week after the accident, but subsequently emptied itself without his control or knowledge. Rectal movements were also involuntary. He also suffered from severe sacral bedsores. The paralyzed limbs often had a sense of burning and pain; bending the knee forcibly caused pain. At the time the legs were amputated no anæsthetic was used, but the sawing of the bones caused intense pain. The general health had recovered sufficiently to allow the patient to drive about in his carriage. Several months before coming under the speaker's care, two years and a half after the accident, the patient had unwisely remained in his buggy about seven hours. His anæsthesia had rendered him unconscious of discomfort from prolonged pressure, and there resulted an area of pressure gangrene under each buttock. These sores had refused to heal. The patient now being confined to his back, and the case so desperate, he was placed under the speaker's charge with the hope that some method of operation might be devised for his improvement. Examination showed absolute paraplegia and anæsthesia below the line crossing the sacrum at its upper border and extending in front across the abdomen two inches below the navel. The bedsores under the buttocks were unhealed, exposing the bone. There was involuntary muscular jumping in both legs. Urine showed granular casts, but no albumin. The patient had strong and natural erections with emissions. It was decided that the cord was absolutely severed at the last dorsal, but that below the second lumbar it must be in a fairly healthy condition. The case seemed hopeless unless it were possible to innervate the lower segment of the cord by renewing its contact with the upper. It was suggested, in case the parts were not too much injured, "to cut off a few of the lower dorsal roots long, and of the lumbar roots short, and suture them together, thus increasing the chance of getting sensation." The operation was performed April 18, 1889, by the same method as detailed in the former case. After exposing the spinous arches of the ninth dorsal to the second lumbar inclusive, it was found that a massive and dense eburnated deposit of bone had formed at the site of the eleventh and twelfth dorsal and first lumbar laminæ. This was with difficulty chiseled and cut away until the severed end of the spinal cord was exposed, and found to be completely cut across and the dura sealed up. Below this for an inch and a half solid bone filled the vertebral canal. The cord here commenced again, and its end was found engaged in the bone so that spicula had grown into it. It could not be lifted up to approach the upper end more than half an inch, and it was evident that repair by suturing was hopeless. He had rallied well from the operation.

Case III. *Fracture of the Eleventh Dorsal Vertebra; Paraplegia.*—J. S., aged twenty-one, coachman. On January 1, 1889, when alighting from the rear platform of a car which was going rapidly, he was struck in the small of the back by the platform, falling on his hands and knees; pain was intense in the back, and paralysis supervened at once. A plaster jacket had been applied and retained for a month. There was incontinence of urine and fæces. Some sensation in the legs and feet. On examination, a slight depression was seen between the last dorsal and the first lumbar spines. A line of anæsthesia crossed the back at the top of the sacrum. At the sides it ran an inch above the crest of the ilium and crossed the abdomen two inches above the pubes. There was atrophy of all the muscles of the thighs and legs, complete paraplegia and anæsthesia of the skin of the lower extremities, showing persistent vaso-motor impressions. He was operated on in February, 1889, the operation being essentially the same as before recorded. At a point underneath the injured arch a circular dam of lymph was found an eighth of an inch wide between the dura and the cord, entirely shutting off the upper from the lower part of the canal. From above this dam the arachnoid fluid flowed freely. The cord at this point showed evidence of having been completely crushed. Just below the lymph dam a mass of largely distended veins occupied the surface of the cord, showing obstructed venous return. These entirely emptied themselves upward when the pressure was taken off. The cord was entirely liberated from its adhesions, the dura sutured with fine catgut, and the wound closed. For two weeks following the operation there had been hyperæsthesia of all the paralyzed parts, but this had abated. The patient recovered rapidly from the operation, but with no improvement of the paraplegia. All operators in cases of fracture paraplegia of any duration had thus far arrived at about the same conclusion—namely, that the pressure of bone was of secondary importance. Except where the fracture involved only the arch, which was driven in by a blow—inasmuch as the violence, usually a fall and bending of the back, which would produce instant paralysis, had done so by a diastasis of the vertebræ, the cartilage being ruptured and the arches broken, which completely pulpified the spinal medulla—the vertebræ were very apt to immediately resume their usual relations. If, however, the fracture took place below the last dorsal, where the medulla had disappeared and the firm cauda equina commenced, the crushing did not usually destroy the nerves, but long bone pressure would. In such cases an operation to correct it was always desirable. It still remained a problem, perhaps never to be solved, how to connect the lower segment of the cord with the upper when there was a gap of half an inch, and whether this union would restore functional connection with the brain, even though its reflex and independent activity might be ever so good.

The next case reported was given simply to show the ease with which the vertebral bodies, if carious, might be approached from behind.

Case IV. *Pott's Disease, taken early and treated as a Tubercular Caries in any Joint would be.*—E. K., aged twenty, glass-worker. Two years before admission the man had had a pleurisy from which he recovered. Subsequently he was cured of a *fistula in ano*, and when he came into the hospital he had slight phthisical changes in the apex of the left lung and a lumbar abscess prominent over the iliac crest. The latter was opened in September, 1889, and discharged profusely through three sinuses around the crest of the ilium. In February last the speaker had found that a long probe could be passed upward to the last dorsal vertebra, and, as there was no deformity and but little pain, he had considered the possibility of curetting the carious bone. An incision was made beside the twelfth dorsal, guided by the end of the probe. The transverse process of the twelfth was carious and was cleared away with a bone curette. This instrument was then worked into the body of the bone alongside the spinal dura, without injury to the latter, and a large excavation of softened bone removed, when on every side the curette encountered firm and apparently sound bone. The entire course of the pus tract through the soft parts was curetted and douched with sublimate solution, and finally with a solution of iodoform in ether. In six weeks the patient was sent home with only a slight discharge, and with but one sinus. The course of this case showed that where there were sinuses connected with a small carious bone focus, the great proportion of purulent secretion was from the sinus walls, uniformly lined with tubercular granulation. It further illustrated the ease with which the excavation and drainage could be accomplished directly backward through the side of the vertebral canal, pressing the uninjured dura one side.

Case V. *Extradural Tubercular Tumor of the Spine, with Complete Paraplegia; Operation; Recovery.*—Patient presented. Male, aged twenty-two years, was taken with a pain in his back in January, 1888. The spine was flexible and without deformity, with the exception of a slight fullness in the soft parts to the right of the ninth and tenth dorsal spines. During March sensation was diminished in the legs and muscular power weakened. A line of hyperæsthesia formed about his waist. Two weeks later he could not stand without support, and he had uncontrollable twitchings of the legs, which had become quite anæsthetic. He also had constant intercostal pain, with girdle pains about the limiting line of disease. Incontinence of urine and fæces followed. An active hectic now set in, and the patient wasted rapidly. In May, just two years ago, operation was performed; the spines and arches of the eighth, ninth, and tenth dorsal vertebræ were removed. Outside the carious arches of the ninth was half an ounce of thick pus, but within and filling the vertebral canal was a small quantity of inspissated pus and a large amount of neoplasm, evidently tubercular. It extended upward and down the canal for two inches and a half, and was thoroughly curetted from the cord. The usual dressings were applied. On the eighth day sensation began to return, and then he could move his legs. From this time on recovery was uninterrupted, with the exception of a sinus which the speaker still hoped to heal.

Case VI. *Pressure Paraplegia from Extradural Sarcoma.*—Male, aged forty-two years. The patient had always enjoyed good health. Three years ago, while placing a pedal under a heavy piano, the instrument had been let down and pressed heavily on his back. After this he had suffered pain for several days. Six months later, while lifting the corner of a piano, he was caught by an excruciating pain in the back. No further trouble ensued at this time. About July 1, 1889, he had jarred his spine severely. A week later he had again jarred himself by slipping on the ice and plunging forward on his hands and knees. In this same month he began to fail in health and have pain in the back. His bowels became difficult to move, and it required great effort to empty the bladder. At the end of five weeks he had found it difficult to guide the limbs. There was no high temperature. In the latter part of August paraplegia and insensibility were found to be complete. In October, 1889, the diagnosis of pressure paraplegia was made and an early operation advised. In January, 1890, the patient had come to New York and was advised a month or six weeks' orthopædic treatment, hoping that the pressure might be from Pott's disease and that a natural relief of intervertebral pus might soon be expected and the paraplegia cured without operation. The looked-for improvement did not come; he grew rapidly worse. The following two weeks he had suffered with an acute nephritis and a temperature of 102·5° F. On March 20th, the day before it had been arranged to operate on him, he had an unaccountable chill, with a temperature of 104·6°. This attack lasted over two weeks before his temperature fell to normal. During this time the urine showed twenty per cent. of albumin and various casts. There were no pulmonary complications, but deep ulceration of the rectal wall was found which was healed under iodoform. On April 16th, the patient being in fair condition, operation was performed. An incision was made from the seventh to the eleventh dorsal spines. The arches of the eighth and ninth, as well as the base of the spine of the eighth, were found somewhat crumbly and eroded by a softish dark growth which disintegrated the bone where it pressed outward from the vertebral canal. The bone was unusually porous in the neighboring parts, not immediately involved in the tumor, and bled freely. On removing the arches of the eighth, ninth, and tenth vertebræ and the pedicle of the eighth, a firm dark growth was found to fill the vertebral canal, flattening the cord to half its normal size. The tumor stopped abruptly at the ligamentum subflava above the eighth and extended downward an inch and a half. It was readily removed, leaving the dura with quite a normal appearance. Not a trace of pus suggestive of tubercular caries was seen anywhere. The wound was dressed with iodoform gauze, no plaster jacket being used. The operation was endured very well, but hiccough and vomiting set in and could not be relieved, the patient dying on the ninth day. A careful examination of the tumor found it to be a round-cell sarcoma without a trace of leucocytes, giant cells, or tubercular material.

Case VII. *Intractable Brachial Neuralgia.*—The patient, a man forty-four years of age (presented), had suffered for two years with intense neuralgia of the right brachial plexus appearing in the forearm and hand. It had grown worse, until the hand became disabled and the muscles atrophied. As the posterior interosseous and ulnar nerves had been stretched without abatement of pain, the arm was removed at the deltoid insertion in the humerus. This did not improve the condition; the patient felt as if the hand and wrist were still on. The possibility of the pain being caused by a tumor or inflammatory process near the origin of the nerve roots led to the following operation. The arches of the fourth, fifth, sixth, and seventh cervical vertebræ were removed, exposing more than two inches of the cord. No tumor or abnormity was felt. The speaker then drew back the roots of the sixth and seventh nerves from the intervertebral foramina into the vertebral canal, and then cut them across just outside the dura, where the sensory and motor roots join. The wound was lightly packed with gauze. Recovering from the anæsthetic, he still suffered pain, seemingly in the fingers. This region was supplied by the eighth cervical nerve. Forty-eight hours after the operation, with the patient prone, the dura was split up for an inch and a half, letting out two ounces of spinal fluid. This was painless, the patient not being under an anæsthetic. The speaker now picked up the posterior roots of the eighth nerve within the dura, which was at the same level as the seventh outside, and cut a quarter of an inch from it. Handling the nerve gave the patient the same pain he had complained of for the past two years. The dura was sutured with catgut; union was perfect. The pain entirely changed in character; it no longer went down into the fingers, but seemed to draw the stump. The pain had continued to be paroxysmal, and was quite severe at times. The skin was anæsthetic from the acromion process downward on the entire outer side of the arm. There was partial anæsthesia of the anterior and posterior aspect of the arm, and over the shoulder from the middle of the clavicle to the middle of the scapula, while the skin facing the axilla was rather hyperæsthetic. This condition had remained unchanged up to the present time, a year and four months since operation, and the patient thought that he had as much pain as before the operation, and had gone back to taking a grain of morphine daily.

Case VIII. *Intractable Neuralgia.*—G. Z., aged forty-five, in 1886 had suffered with a "drawing pain" on the ulnar side of the hand, continuing for two months. It was of such severity that he was obliged to give up his business. The following year the nerve had been stretched, but the pain had grown worse, extending over the hand and forearm. The nerve was then excised, resulting in an exaggeration of the pain. The nerves of the brachial plexus were now stretched in the axilla, but without a relief from the symptoms. After the first operation the forefinger became drawn backward and the forearm wasted. In February, 1889, the patient had come under the speaker's care. It was thought possible to bring about sensory anæsthesia by operation upon the sensory roots of the brachial plexus. Incision was made to the left of the spinous processes from the third cervical to the second dorsal vertebræ. The laminæ of the fifth, sixth, and seventh and first dorsal vertebræ were cut away, exposing the dura. Nothing abnormal was found. The dura was slit up for two inches and a half. The cord was slightly congested. The posterior roots of the sixth, seventh, eighth, and first dorsal nerves were lifted up and divided close to the cord; the free ends were caught up and a quarter of an inch exsected. The wound was closed as usual. The patient's general health had improved, but there was still pain in the wrist, though not so severe as before the operation. The pathologist's report of the exsected nerve roots said that inflammatory exudation was quite marked around the root of the first dorsal. The basis for this operation was the fact that sensory conduction was isolated in the posterior root, which was easily operated on within the dura. Experiments showed that speedy and complete degeneration backward into the cord followed this section. It was the speaker's conviction that if all five roots had been cut, in his cases, the chance of recurrence would have been less. The speaker closed his remarks by emphasizing the advantage of the method as adopted by him. It was the most speedy and the least bloody. It preserved all the tissues in and about the spines which were replaced, and gave firmness to the back, as well as preventing a gap that Nature must fill. While we were not warranted in taking a sanguinary view of the results of operation, yet surgery, with its possibilities ever looming up, ought not to occupy the ultra-conservative ground of the past in this field.

Dr. J. A. Wyeth thought the region of the eleventh and twelfth dorsal vertebræ evidently the site most prone to injury by direct violence. He suggested that the cases calling for surgical interference should be divided into (1) those resulting from pressure upon the cord by bone, whether gradual, as in Pott's disease, or from destruction by sudden violence; and (2) compression by intradural or extradural growth. The simplest form was that of the extradural growth. These tumors were easily approached by removal of the laminæ. Tumors on the cord were more dangerous and recovery less sure. Of pressure by bone, that in Pott's disease was less severe, while that from fracture was practically incurable so far as complete recovery was concerned. He did not think that the operation of resection of the cord and the reunion of the ends would accomplish much unless they adopted the extreme measure of taking out the body of a vertebra and letting down of the superimposed structures wholesale.

The speaker then narrated in brief the remarkably satisfactory results in a case of his already recorded, in which complete recovery had followed operation for compression. The patient had been hopelessly bedridden for two years. The site of the operation had been from the fourth to the sixth dorsal vertebræ. In the second case there had been fracture at the eleventh dorsal. The result of operation had not been very encouraging. The speaker believed the field of spinal surgery to be larger than at present anticipated.

Dr. A. G. Gerster thought the intervening cicatricial tissue would prevent restoration of function in case of division of the cord. Operative interference seemed justifiable because of the utterly hopeless character of these cases without it, and surgical measures might be productive of good, and certainly served the purpose of investigation. He would not hesitate to resort to the extreme measure suggested by Dr. Wyeth, provided it had been demonstrated by experiment that reunion of the ends of a divided cord would result in restoration of its physiological integrity.

Dr. B. Sachs, speaking from the standpoint of a neurologist, did not think the recorded results in this particular field of surgery had been very encouraging. He thought surgeons might use more care in the selection of their cases for operation. Dr. Abbe had demonstrated very decidedly the good results that might be obtained in tuberculous cases, a type which had been considered as by no means amenable to operation. He did not think so many laminæ need be removed. Operations on the spine for neuralgias he deprecated.

Dr. Abbe said that no one would think of operating on the cord in neuralgic cases except as a last resource. He did not advocate operation in cases of fracture. He thought any attempt to reunite the cord by the removal of a vertebra would destroy the patient's life.

Book Notices.

Essentials of Gynæcology. Arranged in the Form of Questions and Answers prepared especially for Students of Medicine. By Edwin B. Cragin, M. D., Attending Gynæcologist to the Roosevelt Hospital, Out-patient Department, etc. With Fifty-eight Illustrations. Philadelphia: W. B. Saunders, 1890. Pp. viii–17 to 192. [Saunders's Question Compends, No. 10.]

Books like this one are useful not only to the student who is barely at the threshold of professional life, but to the busy practitioner as well, who can not always afford the time for the prolonged discussions of systematic treatises. There is many a time when one wants facts, pure and unadulterated, and these compends, *multum in parvo*, when well prepared, as this one seems to be, are often of more service and of wider scope than their authors expect.

The Bradshaw Lecture on Colotomy, Lumbar and Iliac, with Special Reference to the Choice of Operation. Delivered before the Royal College of Surgeons, of England, December 5, 1889. By Thomas Bryant, F. R. C. S., M. Ch. (Hon.) Roy. Univ. I., etc. London: J. & A. Churchill, 1890. Pp. 47.

Mr. Bryant believes firmly that lumbar should be preferred to inguinal colotomy, and he presents in this lecture his answers to those who have objected to the lumbar operation, while he emphasizes the objections to colotomy and its incident dangers. He presents his argument fairly and forcibly, and has made a valuable addition to the literature on this subject.

Hand-book of Obstetrical Nursing, for Nurses, Students, and Mothers. Comprising the Course of Instruction in Obstetrical Nursing given to the Pupils of the Training School connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M. D., etc. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. viii–16 to 214. [Price, $1.25.]

Women have a knack of remembering the forgotten things and instituting small reforms that are great reforms. Dr. Fullerton's hand-book is an illustration of this. Law, order, and comfort rob childbirth of half its terrors. What thoughtful woman has not longed for the quiet cave of the prehistoric savage in place of the trivial confusion, lace and ribbons, and distracting petty cares that accompany the parturient state in modern homes? If the simple directions in this little book could always be carried out, the lot of average womankind would be greatly ameliorated.

Mother, Nurse, and Infant: a Manual especially designed for the Guidance of Mothers and Monthly Nurses. By S. P. Sackett, M. D. New York: H. Campbell Co. Pp. 378.

This book is full of negations, a series of doleful "don'ts," instead of the cheerful affirmation and positive directions that the subject requires. There are chapters devoted to remedies and regimen and to a medical formulary, and a glossary that is altogether unique. According to this glossary, the Falloppian tubes are two ducts or tubes floating in the abdomen. Query: whose abdomen? The following remedy should never be forgotten: "For stranguary, use bee-tea, made by pouring a pint of boiling water on fifteen or twenty honey-bees." It is quite possible that *Mother, Nurse, and Infant* may meet with a certain sale, for it appears to dispense that dangerous commodity, a little learning. The mother, nurse, or infant who cares to read of the primitive streak of von Baer, the false amnion of Pander, the A_1 or A_4 position, etc., will find them all referred to. In fact, there are too many things referred to; hence the lack of value in these three hundred and seventy-eight pages.

Experimental Studies relating to the Action of Hyoscine Hydrobromate, Nitroglycerin, Hydrocyanic Acid, etc., and certain Physiological Conditions, upon the Circulation of Blood in Man as shown by the Sphygmograph. By Arthur C. Hugenschmidt, of Paris, France. (Presented on March 15, 1887, before the Faculty of the Medical Department of the University of Pennsylvania for the Degree of Doctor in Medicine.)

This monograph is interesting so far as it goes, and it is to be hoped that the author will continue his studies in more detail. The sphygmographic tracings show much skill in the use of the instrument, which is not one of precision, but only one of *decision* in the hands of an expert. The author calls attention to the effects of deep respiration on the blood pressure, etc., and gives some interesting tracings showing the effects of food as well as of the drugs mentioned. He makes no generalizations, but presents certain facts clearly and concisely, and his work is therefore of value.

Chronic Bronchitis and its Treatment. A Clinical Study. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1890. Pp. 176.

This is a practical book by a practical man. It is written in a way that shows a keen appreciation of the differences not only of cases, but of individual human beings. The histories given are told with charming frankness, and the writer's comments on patients' statements are delicious. He addresses English physicians and speaks of English patients, but the American physician may learn much of practical value from his work, and must also appreciate, more than most Englishmen, the quaint, half-humorous common sense of the book.

A Manual of Anatomy for Senior Students. By Edmund Owen, M. B., F. R. C. S., Surgeon to St. Mary's Hospital, London, etc. With Numerous Illustrations. London and New York: Longmans, Green, & Co., 1890. Pp. viii–526. [Price, $3.50.]

This work is more than its name implies. A practitioner is frequently in need of a book which will supply him with such anatomical information as is essential for his successful and intelligent work, without a wearisome mass of detail. Mr. Owen has successfully attempted to supply this need and has furnished us with a manual of practical anatomy—practical not alone from a surgeon's point of view, but from a physician's as well. It is written in a pleasant, readable style, and its only fault is its size—it might profitably be twice as large. As it is, it is a *multum in parvo* well worthy of a place in every practitioner's library.

Leçons sur les maladies du larynx. Faites à la Faculté de médecine de Bordeaux (cours libre). Par le Dr. E. J. Moure, Professeur libre de laryngologie, otologie et rhinologie, etc. Recueillies et rédigées par le Dr. M. Natier, Ancien chef de clinique du Docteur E. J. Moure, et revues par l'auteur. Avec des figures en noir dans le texte. Paris: Octave Doin, 1890. Pp. iv–599.

This volume comprises forty-seven lectures, delivered in the course on laryngology by the editor of the *Revue de laryngologie.* The lectures naturally avoid the unnecessary presentation of conflicting views, while each subject receives thorough consideration. Tuberculous and syphilitic laryngitis are especially noticeable for the thoroughness of their presentation, and no text-book on this subject excels the chapters on the nervous diseases of the larynx. The author has taken advantage of his experience in the recent epidemic to write a chapter on the laryngeal complications of influenza, comprising catarrhal laryngitis, paralysis and spasms of the glottis, and ulcerations and œdema of the larynx.

As a text-book this work has no superior, and we hope to see it translated into English.

BOOKS AND PAMPHLETS RECEIVED.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année 1889. Par Bourneville, médecin de Bicêtre, Sollier, conservateur du musée de Bicêtre, et A. Pilliet, ancien interne du service. Volume X, avec 22 figures dans le texte et une planche chromo-lithographique. Paris: Lecrosnier et Babé, 1890. Pp. lvi–188. [Publications du *Progrès médical.*]

The Physician's Companion: a Pocket Reference-Book for Physicians and Students. By Clarence A. Bryce, M. D., Editor of the *Southern Clinic*, etc. Richmond, Va., 1890. Pp. 160. [Price, $1.]

The Intestinal Diseases of Infancy and Childhood. Physiology, Hygiene, Pathology, and Therapeutics. By A. Jacobi, M. D., etc. Vols. I and II. Second Edition. Detroit: George S. Davis, 1890. [The Physician's Leisure Library.]

Transactions of the New York State Medical Association for the Year 1889. Volume VI. Edited for the Association by Edward K. Dunham, M. D., of New York County.

The Sewerage of Columbus, Ohio. Address of Colonel George E. Waring, Jr., at Board of Trade Auditorium, Columbus, Ohio, Monday, June 23, 1890, and Discussion following.

I. A Case of Corneal Transplantation from the Rabbit's to the Human Eye. II. A Singular Case of Injury. By William F. Smith, M. D., Chicago. [Reprinted from the *Archives of Ophthalmology.*]

Anthrax: the Disease of the Egyptian Plagues. By Henry William Blane, M. D., New Orleans. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

Lectures on Massage and Electricity in the Treatment of Disease (Masso-electrotherapeutics). By Thomas Stretch Dowse, M. D., Fellow of the College of Physicians of Edinburgh, etc. New York: E. B. Treat & Company, 1890. Pp. xix–379. [Price, $2.75.]

Beiträge zur Augenheilkunde. Von Professor R. Deutschmann, in Hamburg. 1. Heft, mit 10 Abbildungen in Text. Hamburg und Leipzig: Leopold Voss, 1890. Pp. 80.

The Use and Abuse of Pepsin. By Gustavus Eliot, A. M., M. D., New Haven, Conn. [Reprinted from the *Proceedings of the Connecticut Medical Society.*]

Drs. Bourneville and Bricon's Manual of Hypodermic Medication. By G. Archie Stockwell, M. D., F. Z. S. Detroit: George S. Davis, 1890. Pp. 158. [The Physician's Leisure Library.]

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By S. T. ARMSTRONG, M. D.

Intestinal Charbon in Man.—Dr. G. Bouisson makes a rare case of intestinal charbon in man the subject of a Paris thesis this year. The patient was a tanner, and when brought to the hospital was suffering from abdominal pain, swelling, vomiting, and algidity, that seemed to be caused by intestinal strangulation. Death resulted; and at the necropsy ecchymoses were noticed on the peritoneal surface of the intestines as far as the termination of the jejunum. At this point the intestine was so thickened that the lumen of the canal was diminished one half; this was due to an intestinal thrombus extending more than twenty centimetres, and existing less extensively elsewhere. The ecchymoses were all situated at the mesenteric border of the intestines, and were limited to the small intestines, mesentery, and adjacent lymph glands. They extended through the wall to the mucous surface of the intestine, attaining a thickness of about one centimetre, and, seen from the surface, seemed to be a simple infiltration of blood. Microscopically, sections of the ecchymotic foci were found to contain numbers of the charbon bacilli that were present only in the most superficial portion of the intestine and were not present in the deeper portions of the mucous or in the muscular layers. Cultures and inoculations demonstrated that the micro-organism was the charbon bacillus.

The Contagiousness of Tuberculosis.—According to *Le Progrès médical*, Dr. Haupt, of Soden, has endeavored to demonstrate that the contagiousness of tuberculosis is very dubious. The observations that have been made at the baths of Soden are very interesting. Of the 1,500 inhabitants of the place, 101 keep boarders; and usually these women, with their sisters and daughters, nurse their phthisical guests. In some of the houses the women are assisted by nurses from some neighboring village. They make the patients' beds, sweep and dust the rooms, remove the sputa, and generally work exposed to the contagion. In winter the family of the boarding-house keeper occupies the same rooms used by consumptives during the summer. From 1855 to 1888, 48 of 238 boarding-house keepers died; 10 of the deaths were from tuberculosis, and in 6 of these there was a hereditary predisposition: in the other 4 cases the disease was caused by external causes. Of 415 nurses, 17 had died; 5 of the deaths were tuberculous. In the three past years there were 76 deaths in Soden, 7 of them caused by tuberculosis, 2 cases being meningeal and 1 osseous, each of these in infants. The 4 remaining deaths were not of persons employed in the houses.

The Processes taking Place in the Diphtheritic Membrane.—Dr. M. A. Ruffer concludes, in a paper in the *British Medical Journal* of July 26th, that: 1. The bacilli of diphtheria are present in the most superficial part of the membrane only; that is, in a place where they are well within reach of medicinal agents—an observation not without interest from the point of view of treatment.

2. In the diphtheritic membrane there is an active struggle taking place between the amœboid cells in the membrane and the micro-organisms. In other words, the diphtheritic membrane is a battle-field for amœboid cells and the pathogenic microbes of diphtheria.

3. The reason why the bacilli do not actually penetrate into the tissues is probably that as soon as they try to do so they are arrested by the amœboid cells present in the diphtheritic membrane.

The Treatment of Scarlatina by Acetate of Ammonium.—Dr. Vidal, in a paper read before the Paris Academy of Medicine, concludes, according to *Le Mercredi médical* of August 6th, that there is but little doubt that acetate of ammonium is perfectly tolerated by children in doses of fifteen grains for each year of their age, and to adults as high as an ounce a day may be administered. In these doses acetate of ammonium rapidly reduces high temperature, thus making it a desirable remedy in the treatment of scarlatina, and perhaps also in the other eruptive fevers. The action of the medicament is most rapid if it is administered at the commencement of the disease.

The Treatment of Whooping-cough with Antipyrine.—Dr. P. Ree, in the *Deutsche med. Woch.*, No. 19, 1890, states that whooping-cough may be aborted by antipyrine if administered at the beginning of the convulsive state, on the third or fourth day following the appearance of the paroxysm of pathognomonic coughing. The dose of antipyrine should be one grain and a half for each year of the child's life, administering such a dose three times a day after eating; the drug is easily tolerated by the child, the author never having seen any intoxication following its use. At a later period in the disease antipyrine has no action on the process. It is generally noticed that if the cough suddenly ceases, broncho-pneumonia supervenes, the cough reappearing with greater intensity on the cessation of the broncho-pneumonia. If in the course of whooping-cough the paroxysms of coughing suddenly cease, Priessnitz's compresses should be applied to the chest, and a mixture of benzoic acid and camphor (of each half a grain three times a day), or tincture of ipecac, should be administered to avert the pneumonia.

Vaccinial Fever.—Dr. Peiper, in the proceedings of the *Soc. méd. de Grieswald* for January 10th, reports twenty-three cases of vaccinial fever in children. In six cases the fever appeared during the third day, attaining a temperature of 39·6° C. Generally it developed between the fourth and seventh day, attaining the highest temperature (40° C.) on the seventh or eighth day. It lasted from two days and a half to four days and a half, and did not depend on the number of pustules, nor upon the intensity of the local inflammation. In six cases of revaccination the author discovered but two cases of fever. The fever is rarely important; and when it is very high or prolonged, complications must be feared.

A New Treatment for Epilepsy.—According to *Le Mercredi médical* of July 30, 1890, Laufenauer has employed for all epilcptic conditions except hystero-epilepsy the bromide of ammonium and rubidium. He commences with a dose of thirty grains, increasing to seventy-five grains, though two drachms a day usually suffice. His formulary is:

℞ Bromide of ammonium and rubidium.......... ʒ jss.;
Syrup of lemon.............................. ʒ v;
Water....................................... ℥ x.

The Tests for Stomach Acids.—In his paper on the pathology of gastric dyspepsia in the *British Medical Journal* of August 9th, Mr. D. J. Hamilton gives the various tests for the acids contained in the gastric juice. In cases of acid dyspepsia, an hour after a meal starch will not have changed into maltose and dextrin, and iodine will produce the blue coloring. But, as maltose changes into grape sugar chiefly in the small intestine, it is probably the transformation of cane sugar into dextrose and thence to lactic acid that causes the large proportion of the latter during abnormal digestion.

After a test meal the liquid is drawn off with a stomach tube and filtered, and the total acidity ascertained by any of the usual methods. Then fifty cubic centimetres of the filtrate are distilled until three fourths of the quantity have passed over, when fifty additional centimetres are added and the distilling proceeded with for the same amount as before. The volatile acids are carried off and may be quantitatively estimated by the titration methods; the residue in the retort is shaken up with ether to dissolve out the lactic acid, the ethereal solution is separated by a Geissler's funnel, and the liquid remaining contains the hydrochloric acid and acid salts (phosphates).

To estimate the quantity of lactic acid, evaporate the ether, dilute the residue with distilled water to fifty cubic centimetres, and neutralize this with as many cubic centimetres of a decinormal solution of sodium hydrate (caustic soda, 0·004 gramme in each cubic centimetre) as necessary, using litmus to indicate the neutralization. Each cubic centimetre of the sodium-hydrate solution will neutralize 0·009 gramme of lactic acid; so multiply this decimal by the number of cubic centimetres of the sodium solution, and the product will be the quantity of lactic acid in fifty cubic centimetres.

The residue containing the hydrochloric acid is neutralized in the same way, one cubic centimetre of the test solution neutralizing 0·00364 gramme of hydrochloric acid; this decimal is multiplied by the number of cubic centimetres of the neutralizing fluid, and the product is the quantity of free hydrochloric acid in fifty cubic centimetres.

Tropæolin in saturated watery or alcoholic solutions changes from a brown or golden-red color to a ruby-red color in the presence of minute quantities of free hydrochloric or lactic acid, while the basic, neutral, and acid salts of these or phosphoric acids convert the color into a straw-yellow.

Hydrochloric acid may be detected by Rheoch's test: a saturated solution of a neutral acetate of iron is added to two cubic centimetres of a ten-per-cent. solution of sulphocyanide of potassium until a ruby-red color is obtained; a few drops of this solution are placed in a porcelain dish, and a hydrochloric-acid solution changes the color to light violet, and eventually brown. Günzburg's test for hydrochloric acid is to dissolve two grammes of phloroglucin and one gramme of vanillin in one hundred cubic centimetres of absolute alcohol; equal quantities of this and the solution containing hydrochloric acid are heated in a white porcelain dish with the formation of a rose-red color if the acid is present; neither organic acids, peptone, nor albuminous substances interfere with its action.

To detect lactic acid, add the solution to fifty cubic centimetres of distilled water containing one drop of liquor ferri sesquichloridi, and a yellow color results if that acid is present. Uffelman's reagent is a fresh mixture of ten cubic centimetres of a four-per-cent. carbolic-acid solution with twenty cubic centimetres of distilled water containing a drop of liquor ferri sesquichloridi; the amethyst-blue liquid becomes yellow in the presence of one third its volume of diluted lactic acid; hydrochloric acid, phosphates, and albumin disturb this reaction.

Butyric acid may be detected by its odor, and one tenth per cent. gives with Uffelman's reagent an ash-gray color. Shaking the stomach washings with ether will dissolve the fatty acids, and if the mixture is thrown into water and a little chloride of calcium added, oil globules are set free.

In the normal stomach one hour after a meal the total acidity is 0·189 per cent., and there is 0·044 per cent. of free hydrochloric acid.

Von Jaksch, in the *Zeitschrift f. klin. Med.*, Bd. xvii, H. 5, states that the absence of free acid, or the existence of slight traces only, in one to three hours after a test meal of pure flesh diet or milk, is significant of severe disturbance of the functions of the stomach. He made a series of experiments to determine the comparative sensitiveness of the different color tests, using Congo-red paper, 6 B. paper, benzo-purpurin, and Günzburg's and Boas's reagents. The Günzburg reagent was the most reliable, though this would sometimes fail when even a considerable amount of free acid was present. So a reliable color test is yet to be discovered.

A Study of the Chemistry of the Stomach considered as an Element of Diagnosis.—Dr. Hayem, in a paper published in *Le Mercredi médical* of July 23d, states that the methods used to study the chemistry of the stomach, based on the formation of free hydrochloric acid in the gastric juice, are absolutely insufficient. The proportions of chlorine under its diverse forms, especially in its combinations with albuminoid matters, must be estimated; and a meal of eight ounces of black tea—without sugar or cream—and two ounces of dry, white bread is given in the morning. An hour after the repast was commenced, some of the contents of the stomach are obtained by a tube—using no water for washing, but obtaining the sample by expression. If the stomach is not empty in the morning, lavage must first be practiced, and the meal taken one or two hours thereafter. A thorough examination of the expressed fluid is made.

As the result of many examinations, the three following categories are established:

1. Certain dyspeptics have a functional irritation of the stomach characterized at the time by an increase of the chlorides, of hydrochloric acid, and of the total acidity. There is an excess of stomach work, and the condition is called hyperpepsia.

2. In others there is a diminution that may go as far as annihilation of all these constituents; this is called hypopepsia, and occasionally becomes apepsia.

3. Lastly, in a small number of cases, the gastric chemistry is slightly modified; this is a simple dyspepsia, probably caused by nervous or mechanical troubles.

The Causes of Gastroxia (Acid Dyspepsia).—Mr. D. J. Hamilton publishes in the *British Medical Journal* of August 9th a most excellent paper on the pathology of gastric dyspepsia. He concludes that gastroxia—the gastroxynsis of Rossbach—is due to an acid, usually lactic, but in rare cases hydrochloric; though in some cases the acidity is due to lactic acid augmented by the presence of various volatile organic acids. The excess of lactic acid may be a result of prolongation of the natural lactic-acid stage of digestion, or it may be furnished by the grape sugar developed from the sugar in the dietary; a small part of it may be grape sugar resulting from the action of salivary diastase on starch.

The cause of the prolongation of the lactic-acid stage of digestion is the deficiency in hydrochloric acid that ought naturally to replace the lactic acid.

The fermentation of the grape sugar into lactic acid is brought about by living vegetable organisms, always more or less abundant in the stomach. This fermentation is probably due in part to deficiency in the quantity and proteolytic quality of the gastric juice, the carbohydrates consequently undergoing a faulty decomposition while the proteids remain undissolved.

Acidity caused by excess of hydrochloric acid is manifested in two ways: (*a*) Where the acid is secreted in a gush immediately on the introduction of food, and (*b*) where it accumulates in the stomach during fasting. In either case the alkalinity of the saliva is neutralized too soon, and, the digestion of starchy food being hindered, it accumulates in the stomach.

Stomach Washing in Children.—In a paper in the *Bulletin of the Johns Hopkins Hospital* for July, 1890, Dr. W. D. Baker reports the result of his experience in two hundred cases of stomach washing for gastro-intestinal disturbance in children. It quickly relieved vomiting in most cases after the first washing, and in but one case was it necessary to stop milk food in order to check the vomiting. In summer diarrhœa, with retarded digestion and almost constant presence of milk curds in the stomach, the removal of the curds by washing not only gives the stomach rest, but prevents their passage into the intestine with consequent irritation and fermentation. It was also used advantageously in constipation consequent upon a catarrhal condition of the gastro-intestinal canal. In one case of carbolic-acid poisoning it was used successfully. It should not be used in children having heart disease, bronchial or pulmonary troubles.

The washing is done with a soft Nélaton catheter, No. 8, 9, or 10, attached by a short glass tube to a piece of rubber tubing, two feet long, with a two-ounce funnel in the distal end. The child is held, sitting, in the nurse's lap, with the head slightly bent forward; a rubber bib reaches from the neck to a slop pail on the floor. The tube is moistened in warm water, passed into the mouth, and gradually forced into the œsophagus and stomach. Gagging or retching usually stops when the tube enters the stomach, and any contents are usually evacuated through the tube; these should be collected and examined. From one to two ounces of tepid water are then poured into the funnel, held above the level of the child's head; the funnel is then lowered and the stomach contents siphoned out. This process is repeated until the washing from the stomach is clear.

Cannabis Indica in Diseases of the Stomach.—Dr. Germain Sée, in *Le Mercredi médical* of July 30th, concludes that in diseases of the stomach a fatty extract of cannabis indica in doses of one grain, five times a day in a solution, is very serviceable. A greater dose is toxic, and the alkaloids do not produce the same effect. The drug is especially useful in inorganic diseases of the stomach, in which there are chemical alterations of the gastric juice (hydrochloric superacidity is most frequent), and in the neuroses that are manifested without chemical modification of the gastric juice. In dyspepsia manifested by troubles of the appetite, flatulence, alterations in digestion, and reflex nervous troubles (cardiac or cerebral), cannabis indica acts in a constant manner to quiet the painful sensations and re-establish the appetite. If these depend on hyperacidity, the drug should be associated with large doses of bicarbonate of sodium at the end of gastric digestion.

Cannabis has no action on spasms or dilatations of the stomach, but it relieves spasms and vomiting due to disorders of the motor nerves. It calms the painful sensations of pyrosis—due to gas from fermentation.

Gastric digestion is increased by cannabis when it is relaxed by a paralytic condition or painful from superacidity. It does not improve indigestion due to absence of hydrochloric acid. The drug improves reflex nervous troubles, but it does not change the nervous disposition of hypochondriacs, hysterical persons, or neurasthenics. Its use demands the aid of other curative methods—alkalies, purgatives, and diet. [*L'extrait gras de haschisch* of the French pharmacopœia is made by the Arabs by boiling the flowers of the fresh plant with butter and a little water; the latter is evaporated, and when the butter is sufficiently charged with the active principle it is ready for use. The preparation is unctuous, tenacious, of a yellow-green color, and nauseous odor.]

Infectious Icterus, or Weil's Disease.—Dr. Ducamp, in the *Revue de médecine* for June, says of this disease that it seems to be identical with the essential icterus of Ozanam, the pseudo-grave icterus of Grellety Bosviel, the icteric fever of Lancereaux, the hepatic typhus of Landouzy and Mathieu, the curable grave sporadic icterus of Roudot, and the infectious icterus of Bernheim. So, although Weil's name has been given to the disease, it was clearly described by Landouzy three years previous to Weil's paper.

Dr. Ducamp's cases occurred in three of six laborers engaged in cleaning a foul obstructed sewer in Montpellier. The slime was disinfected by chloride of lime; but all of the workmen became ill—three of them with infectious icterus, two with gastro-intestinal troubles, and one with simple malaise. There were no other cases of icterus in the street, city, or hospital, and the men affected did not live in the same part of the city. The condition seemed grave and persistent, and was accompanied by moderate fever, pronounced myalgia, and a marked icterus (polycholic) that disappeared slowly during a long convalescence. Infectious icterus, like all infectious diseases, has a period of incubation that makes no manifestation in the midst of perfect health; a period of invasion when there is no presage of the disease that will appear; at last a period of activity, and lastly that of decline. In these cases the period of incubation was five days. The period of invasion was marked by a severe general condition, extreme fatigue, moderate fever, severe myalgia exaggerated by pressure on the muscles of the inferior limbs, and occasionally vertigo and epistaxis. The period of activity is particularly marked by an intense polycholic icterus, albuminous urine in one case, occasional nasal and cutaneous hæmorrhages, the gravity of the general condition of the case above all attracting attention. The period of decline is announced by a diminution of icterus; it is of long duration, and there may be slight diminution in the volume of the liver. The disease he regards as of microbial origin.

The Liver in Typhoid Fever.—Dr. T. Legry, according to the *Rev. des sci. méd.* for July, finds that the liver in typhoid fever is not increased in volume, except rarely, as it is in alcoholism, puerperal fever, malarial poisoning, and in long-continued diseases. The pale and grayish color often erroneously suggests a well-marked fatty degeneration. The bile is generally pale, decolorized, less abundant, and of feeble density. By microscopic examination a granulo-fatty degeneration is found that is very slight at the commencement of the disease, and only more extensive in cases of late death or of complication; the degeneration is always less pronounced than the macroscopic appearance of the liver indicates. The lesion is sometimes circumportal and circumlobular, more rarely perihepatic, or altogether peripheric and central; it is characterized by the presence of fine granulations, that may become confluent, forming more voluminous droplets, but rarely attaining the size of the fatty granules in tuberculosis. The capillaries are dilated and full of blood at the commencement of the disease, but this soon ceases. The cells may present a cloudy tumefaction, more rarely a hyaline and transparent appearance; they always contain many nuclei. In the portal canals nodules made of nuclei, surrounded with protoplasm arising from the degeneration of the hepatic cells, are found; these nodules are due to microbic embolism. The portal spaces often present in places a slight degree of embryonic infiltration.

In eleven cases the presence of the bacillus of Eberth was demonstrated in sections of the hepatic parenchyma, and positive cultures of the bacillus were obtained from the liver tissue. The conclusion is that the liver probably arrests and destroys the microbes that are introduced by the portal vein, that it arrests about half of the toxic substances contained in an alcoholic extract made with typhoid fæcal matter, and that, lastly, it seems also to diminish the toxicity of the soluble products secreted by the bacillus of Eberth.

In ordinary typhoid fever there are no direct physical signs that allow us to appreciate the anatomical condition of the liver, or the degree of the performance of its functions. It is by indirect symptoms, and, above all, by finding urobilin in the urine, that we obtain indications of real value.

The Cause of Hæmatemesis in Hepatic Cirrhosis.—Dr. Litten, in the *Berl. klin. Woch.* of February 3, 1890, states that in five cases of hepatic cirrhosis in which death was caused by vomiting blood it was ascertained that the source of the hæmorrhage was the enormous varices that ruptured in the inferior portion of the œsophagus. Naturally the œsophagus is richly supplied with veins of which the superior communicate, by means of the thyreoid vein, with the vena cava superior; while the inferior form about the cardiac extremity a large plexus that communicates but moderately with the portal vein, and empties principally into the azygos vein. Consequently, as in cirrhosis of the liver the portal vein becomes impermeable, its blood passes in great part into the azygos vein that conducts it direct to the vena cava superior. This is particularly the case with the blood of the coronary and gastroduodenal veins. As a result of the azygos vein becoming distended and incapable of receiving all the blood of the œsophageal plexus, there is a formation of varices with consequent rupture simulating gastrorrhagia.

The Varieties of Hepatic Tuberculosis.—Dr. Hanot and Dr. Gilbert, in the *Archives gén. de méd.* for November, 1890, make the following divisions of tuberculosis of the liver, founded on the existing pathological conditions: 1. The acute form is a fatty hypertrophic tuberculosis of the liver resembling a fatty hypertrophic cirrhosis. 2. The subacute forms, presenting two varieties: *a*, atrophic fatty tuberculous hepatitis; *b*, nodular parenchymatous tuberculous hepatitis. 3. The chronic forms of tuberculous cirrhosis and of fatty degeneration.

Such distinctions, of course, are of chief value in making necropsy reports.

The Cause and Treatment of Diabetic Coma.—Dr. Stadelmann, in the *Deutsche med. Woch.*, No. 46, 1889, states that he has found crotonic acid in the urine in certain cases of diabetes. Minkowski and Küleg believe that this acid results from the decomposition of oxybutyric acid, which should also form acetic acid. It is on these data that the hypothesis of acid intoxication in diabetic coma rests, as well as the reason for the intravenous alkaline injections. Of eleven cases treated by this method by various physicians, only one patient recovered, though all the reporters agree on the temporary amelioration the injections produce. The injection is made by dissolving 186 grammes of bicarbonate of sodium and 286 grammes of carbonate of sodium in four litres of distilled water. A litre to a litre and a half may be injected in the case of an adult.

The author prescribes for diabetics large doses of tartrate of sodium, as much as forty-five grammes a day having been given without loss of weight or diminution of appetite.

True diabetic coma threatens those only that have oxybutyric acid in the urine; diabetics that eliminate more than 1·1 gramme of ammonia daily run great danger, while those eliminating as much as from two to six grammes are threatened by coma. When the perchloride of iron reaction occurs the presence of oxybutyric acid is affirmed, though the inverse is not always true. When diabetic coma is feared, a rigorous meat diet and large doses of alkalines should be prescribed. When coma exists, intravenous injections of bicarbonate of sodium should be given until the urine becomes alkaline; the subcutaneous injections of soda should not be practiced, because they are painful and incite local suppuration.

The Principles of the Treatment of Diabetes Mellitus.—Dr. F. W. Pavy publishes, in the *British Medical Journal* of August 16th, the paper he read before the Berlin International Congress. He believes that the first consideration in the treatment of diabetes is to control by dietetic measures the passage of sugar through the system. The real point, however, to be aimed at is to restore the assimilative power over the carbohydrate elements of food; and until this has been accomplished it can not be said that a cure has been effected, the disease only being held in subjection and prevented, as long as the condition can be maintained, from progressing to an unfavorable issue. The maintenance of a normal state of the system, by keeping it free from the passage of sugar through it, conduces most to the restoration of assimilative power, and thus a healthy condition of the body is brought to bear to help promote the removal of the faulty state. He believes opium and its alkaloids, codeine and morphine, are the medicinal agents that especially assist in the restoration of the impaired assimilative power, their influence being particularly noticeable in cases in which the sugar has been brought down to a certain point, but not entirely removed by dieting; these drugs will then completely remove the sugar. The quantitative testing of sugar in the urine is absolutely necessary, not only to regulate the treatment according to the progress made, but also to keep a check upon the manner in which the directions given are being carried out.

The Pathogeny of Albuminuria and Nephritis.—At a recent séance of the Academy of Medicine of Paris, Dr. Semmola read a paper in which he concluded, according to *Le Mercredi médical* of July 30th, that—

1. The degree of albuminuria is not always in accord with the intensity of the morbid renal processes. In toxic nephritis produced by agents that have no alterative action on the blood, the maximum of renal lesions and minimum of albuminuria are found, while in toxic nephritis of mineral origin, in general, a maximum of albuminuria occurs that is due both to renal lesions and a dyscrasic condition.

2. In albuminuria produced by the injection of the white of egg only a slight epithelial alteration is necessary. It becomes, therefore, a simple phenomenon of depurative elimination.

3. Such albuminuria is no less than a functional effort to which the renal apparatus does not physiologically tend, for in the normal state the albuminoids received by alimentation are destined to supply the intra-organic functions and not to be eliminated.

4. The eliminative processes produce at length secondary renal alterations that should be classed with toxic nephritis, properly so called, with the difference that in the latter inflammatory lesions predominate, while the former are rather degenerative.

5. The albuminuria of Bright's disease (always characterized by great oscillations in the quantity of albumin excreted at different hours of the day, because of either the richness of alimentation in nitrogenous substances, or of causes that escape us) should be classed among hæmatogenous albuminurias, because, for anatomical and clinical reasons, it would be impossible to conceive of such rapid and frequent changes, in a few hours only, in the alteration of the epithelium.

Arsenite of Copper in Acute Affections of the Intestine.—Dr. H. Schulz, in the *Deutsche med. Woch.*, No. 18, commends Aulde's treatment of acute intestinal diseases by arsenite of copper. The best method of administering the drug is by frequently repeated fractional doses, for children dissolving one one-hundredth of a grain in four to six ounces of water, and giving a teaspoonful of the solution every ten to thirty minutes. It is especially serviceable in recent cases before inflammation of neighboring organs commences; and he has employed it in severe cases of epidemic cholera, cholera morbus, and dysentery. He believes the favorable action of the drug is due to an energetic stimulation of the diseased intestine, and a consequently conferred capacity to resist the pathogenic micro-organisms.

The Results of the Chronic Abuse of Coffee.—Dr. F. Mendel, in the *Berlin klin. Woch.*, No. 40, 1889, says that in the industrial territory of which Essen is the center the working women drink coffee from morning to night, consuming daily for each individual a pound or more of Ceylon coffee containing on an average four grammes of caffeine to the pound. The morbid phenomena caused by the chronic abuse of coffee are of three kinds:

1. Nervous troubles. A feeling of general weakness, aversion to work, sadness, cephalalgia, and insomnia. All these symptoms disappear more or less when the individual has taken a concentrated infusion of coffee.

2. Muscular troubles. A greater or less decrease of vigor of motion; no more incapacity to accomplish the coarser domestic labors than to do fine hand-work; trembling of the hands, even when at rest.

3. Circulatory troubles. Small, accelerated, irregular pulse; feeble beat of the apex of the heart; præcordial distress; palpitation. Coldness of the extremities, appreciable to the patients. Yellowish-white visage, and anæmia of the mucous membranes. Anorexia is frequent, and there is nervous dyspepsia: a sensation of pressure and of fullness of the stomach, nausea, eructations, cardialgia.

Isaac has called (*Berlin klin. Woch.*, No. 3, 1889) attention to the tendency to acne rosacea.

The treatment is to stop the difficult work done by the patient; to substitute milk for coffee; to keep in the open air; to take daily cold baths followed by energetic friction; and cognac in small doses.

This description will apply equally well to those working women in America who use tea in amounts proportional to the confinement and physical strain incident to their occupation. The treatment would be the same, and can probably be as easily adopted by working women in America as in Germany.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for September 5th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y. ...	Aug. 30.	1,639,448	716	..	..	..	..	..	..	11	1	20	8	8
Chicago, Ill..........	Aug. 30.	1,100,000	369	..	..	..	..	..	..	13	1	13	1	5
Philadelphia, Pa.....	Aug. 23.	1,064,277	415	..	..	..	..	..	..	11	3	8	..	9
Baltimore, Md.......	Aug. 30.	500,343	157	..	..	..	..	..	..	8	..	3	..	5
St. Louis, Mo........	Aug. 30.	450,000	161	..	..	..	..	..	..	4	..	4	..	....
Boston, Mass........	Aug. 30.	437,245	205	..	..	..	..	..	..	6	..	10	..	1
New Orleans, La.....	Aug. 16.	254,000	.....	..	..	..	..	..	..	1	..	..	1	....
New Orleans, La....	Aug. 23.	254,000	112	..	..	..	..	..	..	..	..	2	1	1
Pittsburgh, Pa.......	Aug. 23.	240,000	77	..	..	..	..	..	..	8	1	9	..	....
Detroit, Mich........	Aug. 23.	230,000	57	..	..	..	..	..	..	..	..	3	..	....
Louisville, Ky.......	Aug. 23.	227,000	68	..	..	..	..	..	..	5	2	..	..	....
Louisville, Ky.......	Aug. 30.	227,000	53	..	..	..	..	..	5	..	..	4	..	....
Milwaukee, Wis......	Aug. 29.	220,000	83	..	..	..	..	..	..	2	..	8	2	....
Rochester, N. Y......	Aug. 23.	135,000	48	..	..	..	..	..	..	1	..	..	..	1
Rochester, N. Y......	Aug. 30.	135,000	41	..	..	..	..	..	..	1	..	..	..	..
Providence, R. I.....	Aug. 30.	132,000	62	..	..	..	..	..	..	..	..	1	..	2
Indianapolis, Ind....	Aug. 29.	129,346	28	..	..	..	..	..	..	2	2	2	..	...
Denver, Col..........	Aug. 29.	125,000	50	..	..	..	..	..	..	12	..	2	..	1
Toledo, Ohio........	Aug. 29.	81,650	12	..	..	..	..	..	..	..	..	..	..	..
Nashville, Tenn.....	Aug. 30.	75,695	24	..	..	..	..	..	..	..	..	..	..	....
Fall River, Mass.....	Aug. 30.	74,918	37	..	..	..	..	..	..	1	..	3	..	....
Portland, Me.........	Aug. 16.	42,000	19	..	..	..	..	..	..	..	..	1	..	....
Portland, Me........	Aug. 30.	42,000	13	..	..	..	..	..	..	..	..	1	..	....
Galveston, Texas....	Aug. 8.	40,000	14	..	..	..	..	..	..	1	..	..	..	....
Newport, R. I........	Aug. 28.	20,000	5	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	Aug. 25.	16,000	4	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	Aug. 23.	15,000	10	..	..	..	..	..	..	1	..	..	1	....

Treatment of Typhoid Fever by Cold Baths.—"M. Debove, in a paper read at the last session of the Paris Société Médicale des Hôpitaux on the treatment of typhoid fever by cold baths, declared that he had not been convinced by a recent paper of M. Merklen that this was the best treatment. His own mortality during the last six years was 11 per cent., or during the last two years, 9·2 per cent. Now M. Merklen estimates the mortality from typhoid in Paris hospitals treated by cold baths as 9·92 per cent. M. Debove does not prescribe active medication, but believes in keeping up copious diuresis. To this end he supplies his typhoid patients with abundance of liquid, and if the quantity of urine passed does not appear to him sufficient, he 'stimulates the zeal' of the attendants to get the patient to drink more; the total amount of fluid which should be taken daily ought, he says, to be not less than five or six quarts. M. Debove, who does not deny the good effects of baths, suggests that they are probably due to the increased quantity of urine secreted, which, as in the case where diuresis is produced by drinking, carries off the *materies morbi* from the system. According to M. Gérin-Rose, who followed M. Debove, still more successful results may be obtained by carrying out the following indications: (1) To produce intestinal antisepsis by means of naphthol and salicylate of bismuth, (2) to lower the fever by means of very large doses of quinine and warm baths (at 86° F.), and (3) to keep up the patient's strength. Of forty-three patients treated during the last eighteen months in this way, only one died."—*Lancet.*

ANSWERS TO CORRESPONDENTS.

No. 329.—We think you are wrong.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, SEPTEMBER 20, 1890.

Lectures and Addresses.

CLINICAL LECTURES
ON SOME COMMONLY OBSERVED FORMS OF PULMONARY DISEASE.

DELIVERED AT
THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

By JAMES K. CROOK, M. D.,
INSTRUCTOR IN CLINICAL MEDICINE AND PHYSICAL DIAGNOSIS, ETC.

LECTURE IV.

Acute Pleurisy with Effusion; Aspiration.—This patient, gentlemen, is Mrs. K. W., aged twenty-eight. She gives a plain and suggestive history, the symptoms beginning at a very recent date. As you see, she is a very healthy-looking, robust woman, and her face gives no indication of disease. She informs us that she was perfectly well until about fourteen days since, when she was seized in the evening with a sharp, catching pain in the left side. She remembers also that she had very cold, chilly sensations for an hour or two before the pain came on, but just afterward she had high fever and perspired freely during the night. The pain was much modified on the morning following, but a short, dry cough had developed during the night. As this cough continued and the pain in the side did not disappear after several days, she deemed it advisable to see a physician, and at that time she came under my observation. On examination I found a slight exaltation of temperature—100° F.—and a pulse of 92. A careful physical examination yielded negative results, save a catching respiration and a limitation of respiratory movements on the affected side. But when the patient called to see me again, after a further interval of four days, I noticed that her respirations were very panting and hurried, and she informed me that her breathing had been getting shorter and shorter for several days past. An examination then disclosed the characteristic physical signs which we shall find so well marked this morning. Her temperature to-day is normal, but we find the pulse-rate to be 95 to the minute. On carefully inspecting the chest, we see that the left side is taking but little part in the respiratory movements. There is also an appearance of fullness on that side. Palpation shows a complete absence of vocal fremitus almost from the left clavicle above to the bottom of the chest below. I can feel the apex of the heart a little to the right of the sternum, which shows a displacement of at least three inches. Mensuration shows a preponderance of two inches of the left side over the right. On percussion, I find complete flatness, both before and behind, all over the left side. Even over the clavicle there is total absence of resonance. When I apply my ear to the chest I find a complete absence of the respiratory sounds. The voice sounds are distant and muffled. The physical signs in this case are not to be mistaken. Our patient is suffering from acute pleurisy, with an enormous effusion into the left pleural cavity. If we could have seen the patient during the first twenty-four hours of the trouble, we should probably have heard a grazing friction sound on the left side. At that time the natural moisture of the inflamed portion of the pleura was dried up and the vessels were enlarged and swollen. The visceral and parietal layers of the membrane then coming in contact and rubbing against each other would produce this grazing noise, which would indicate the first or dry stage of the disease. This sound disappears as soon as the exudation begins to form, so that a physical examination during the second or third day, or before the fluid accumulates in sufficient quantity to be recognized, is apt to lead to rather negative results. The exudative products are of two kinds—a serous fluid, which gravitates to the dependent portions of the cavity, and a plastic or fibrinous material, some of which also sinks to the bottom of the pleural cavity, but most of which adheres to the pleura. The membrane, both above and below the level of the fluid, is sometimes enormously thickened by this means, so that it is often impossible to make out the exact surface line of the effusion. In empyema there are abundant pus cells present. The fluid in this case has continued to increase until the left side is filled as high up as the clavicle. The heart, as we have seen, is pushed far out of its place. The left lung is crowded to the upper and back part of the chest against the vertebral column, and is receiving very little if any air. If a further accumulation should take place, the other lung will also very soon become embarrassed in its action and the patient's condition will become greatly aggravated. If the fluid should remain long in the chest, the lung on the affected side will become solidified or carnified, as it is termed, and will be rendered permanently crippled. The heart also may be so seriously interfered with as to threaten the life of the patient. Now, under these circumstances, what are the indications? If the amount of the effusion were slight, say extending up to the level of the inferior angle of the scapula, I should rely upon Nature to remove the fluid and aid it by means of hydragogue cathartics, diuretics, and diaphoretics. But in cases like this, where the effusion is considerable in amount, we simply waste time by this method of treatment. I have spoken of this as an acute case because it is of recent origin, but it will inevitably become chronic unless we take active means to relieve the patient.

In my opinion, aspiration or the operation of thoracentesis should be performed without delay in all such cases. By withdrawing a greater part of the fluid, Nature will in many cases continue the process and the remainder will be absorbed. If we allow it to remain, we expose our patient to all the danger and distress of embarrassed breathing, an impeded heart, and a carnified lung. At the same time, the continued presence of the fluid favors so heavy a plastic deposit upon the pleural surface as to seriously modify or destroy its absorptive power. It has been my experience that aspiration performed within two or three weeks after the inception of the disease is almost invariably successful and requires no repetition; whereas, if the fluid is allowed to remain longer, the operation must be repeated two, three, or perhaps more times. In one neglected case which came under my observation in the summer of 1887, I found it necessary to withdraw the fluid on seven different occasions. We will now proceed to operate in this case. The instrument I employ is a Potain bottle aspirator. There are as many as twenty-five or thirty aspirators in use constructed on the same principle, but I regard this as one of the best. Having bared the dorsal aspect of the thorax, I direct the patient to sit with her arms folded in front of the body in a slightly stooping position. In cases of great nervousness, or fright, or weak heart, it is not a bad plan to perform the operation with the patient in the recumbent posture and administer an ounce or two of brandy with a little aromatic spirit of ammonia beforehand. I now look for an intercostal space below the angle of the scapula on the left side. It is rather difficult to find one in this patient, as she is rather stout and the ribs are not widely separated. The seventh, being the first and usually the most prominent interspace below the scapula, is the one I usually select, and into this I shall now insert the needle. I select one of medium size for this purpose, having previously treated it with carbolized oil and passed an antiseptic solution through it. I now press the forefinger of my left hand into the interspace and draw the skin slightly aside. This leaves the skin somewhat tense, and when the needle is withdrawn a valvular puncture will remain which absolutely excludes all air. I now introduce the needle, being careful to keep it in the middle of the interspace and particularly avoiding the *lower margin of the upper rib* for fear of wounding the intercostal artery. Having passed the needle in to the depth of an inch and a half, I pump the air from the receiving bottle and turn the stopcock. There is an immediate flow of fluid which, as you see, is of an amber or straw color and not turbid. Having positively demonstrated the presence of an effusion, we are justified in pushing the needle to a greater depth if required, as the heart and left lung are displaced far out of harm's reach. This fluid confirms our diagnosis of simple fibro-serous pleurisy. If it were purulent it would be more viscid and cloudy. I allow it to flow away until three bottlefuls, almost three quarts, are discharged. As the patient is now beginning to feel a sensation of tightness or constriction, I desist. This should invariably be done as soon as such symptoms appear. Other warning events are the occurrence of coughing, coldness of the extremities, shortness of breath, or a weakening of the pulse. We are advised by the text-books that patients should always lie in bed for twenty-four hours after the operation. This can certainly do no harm, but I do not regard it as necessary or even desirable, unless the patient is in a very weak and run-down condition. I have frequently aspirated patients at the clinics and in my office and allowed them to walk or ride to their homes just afterward without the occurrence of any harmful manifestations. The dangers from aspiration of the thorax have been greatly magnified in the past. No doubt more or less harm has been done by means of the old-fashioned trocar and cannula, but I consider the danger in the use of such an instrument as we have here to be almost infinitesimal. The fluid is withdrawn slowly enough to allow the viscera which have been displaced to approach their normal positions gradually and without shock. A considerable time must elapse after the operation before there is a complete reposition. This slow withdrawal also obviates to a great extent the œdema of the lungs and syncope which have been observed under the use of the trocar and cannula. The after-treatment in this case will consist simply in the observance of careful dietetic and hygienic rules, with the administration of a little digitalis and acetate of potassium to stimulate the heart's action and promote free diuresis. It is entirely probable that the small quantity of fluid remaining will be absorbed in a week or two. Owing to the plastic thickening of the upper part of the pleura, considerable dullness still remains, but by forcible percussion I find some resonance, and by auscultation a modified respiratory murmur as low down as the sixth rib behind. If we find after a week or two that the fluid is reaccumulating, we will withdraw it again. This will not have to be done more than once or twice at the outside.

Bibliographical.—In reviewing the subjects of the foregoing lectures, the author would express his indebtedness to the works of Biermer, Burt, Chew, Davis, Donaldson, Fagge, Flint, Fraentzel, Gebhart, Hertz, Hirt, Laennec, Leyden, Loomis, Niemeyer, Nothnagel, Pepper, Salter, Traube, von Ziemssen, Waldenburg, Waters, Weber, and Zimmermann.

Original Communications.

LAPARO-COLOTOMY FOR STRICTURE OF THE RECTUM.*

By CHARLES K. BRIDDON, M. D.,
SURGEON TO THE PRESBYTERIAN HOSPITAL, NEW YORK.

OPENING the colon for obstruction occurring in the lower bowel, though proposed a century and a half ago, has only been done on a large scale during the last thirty or forty years, and it is not improbable that even now it would be resorted to much more frequently if it were not that many surgeons are deterred from doing it on account of the great mortality as presented in the comprehensive statistics of Batt, Erckelen, and others. Of course, it ought to be taken into account that such records include numerous cases in which the operation was done before abdominal surgery had attained to its present position, and many other cases too far advanced to be aided by intervention of any kind. I think I am not singular in the opinion that no such results follow operations done at the present time.

I believe it is recognized by all practical surgeons that to derive the full benefit from such interference the operation must be done early, not as a last resort to stave off a present or impending obstruction, but as a curative measure; it is now no longer a debatable question whether an early colotomy retards the growth of cancer or the no less clinically malignant cases of spreading, intractable ulcerations that have so long been attributed to syphilis, but which are in no wise influenced by treatment directed against that dyscrasia. I think it is conceded that the operation does exercise such influence, that it is of incalculable advantage in putting the parts at rest and relieving the unceasing misery of tormina and tenesmus that nothing can assuage; but to obtain the full measure of such results it must be done when the first symptoms of obstruction manifest themselves. I regard the danger to life when the operation is done thus early as almost nil, and know of no surgical procedure that affords such marked relief. Some have objected that it is not a radical measure; that it is only palliative and does not cure. To those I would refer the cases that I have reported where patients were snatched from inevitable death by obstruction from inoperable cancer, and to one case where the patient survived an operation done under such circumstances for a period of two years; to other cases where patients worn out by years of suffering from ulceration and contraction were restored, and are now living in the enjoyment of apparently perfect health.

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* Read before the New York Surgical Society, May 14, 1890.

I should not like it to be considered that I object to the extirpation of the disease. I believe that it should always be done, providing we can get beyond the limits of the disease, even if it be necessary to perform the operation of Kraske to insure the removal of the whole; but I believe that an artificial opening in the loin or groin should be a preliminary step; that colotomy should precede proctectomy.

In the *Medical Record*, December 28, 1878, I published a short series of cases of lumbar colotomy, and I was so well satisfied with the results of those operations that I continued to practice it until two or three years ago, when I witnessed some anterior operations done by my colleague, Dr. Lange, and I was so impressed with the advantages of the method, which I understood him to say originated with Verneuil, that I have since restricted myself to that operation, and the six cases reported in this paper occurred in less than a year's practice in the Presbyterian Hospital of this city.

The objects and modifications in the operation about to be described are to prevent the passage of fæces from the upper to the lower opening of the gut, and troublesome prolapse, both of which annoyances have followed the ordinary operation. Madelung's operation was devised to prevent the contents of the alimentary canal passing from above to the bowel below. He cuts the bowel entirely across, stitches the upper end of the divided intestine to the skin, thus establishing an artificial anus; he then invaginates and sutures the cut end of the lower segment, dropping it into the abdominal cavity. The objection to this is that the gut below frequently becomes filled with its own secretion, and if the original obstruction is a tight one, the patient will suffer at times from colicky pains, which would be mitigated if that portion of the canal communicated with the opening in the abdominal wall. Then, again, in the after-treatment of such cases it may be, and I think always is, judicious to disinfect the seat of disease from below or above, and I have been well pleased with the use of a half- or one-per-cent. solution of creolin for such purposes, continued daily for a long time. I am inclined to think that in many cases of cancer, irrigation with disinfectants not only adds to the comfort, but prolongs the life of the patient, and I think they are equally beneficial in the badly ulcerated syphilitic cases.

With the same object in view, Herbert Allingham makes an incision two inches in length and an inch inside the anterior superior spine of the ilium, and parallel with Poupart's ligament; the divided peritonæum is then sutured to the skin. The sigmoid flexure is pulled to the surface, a piece with a long mesentery is then fixed upon, and a needle carrying carbolized silk is passed through the mesentery close to the intestine and secured to the abdominal wall on both sides. The bowel, being slung over the silk thread, is then sutured to the opening in the parietal wall, and it is not opened until two or three days after.

To prevent prolapse of the bowel, Harrison Cripps, F. R. C. S., in a very able article on Inguinal *versus* Lumbar Colotomy (*Brit. Med. Jour.*, April 6, 1889), proposes to select a portion of the gut with a meso only long enough to allow it to be brought into easy contact with the abdominal walls. He also makes his incision in the linea semilunaris, the advantage of which, I think, is doubtful.

I do not think it a matter of great importance whether the incision in the abdominal wall is made through the muscular structures or through the aponeuroses along the outer border of the rectus, providing that it be not made too long. I believe that large incisions are not necessary for the free exit of excreta, and that they favor hernial protrusions of the small intestine into a sac formed out of the colon, and projecting it through the opening in the parietes.

I make my incision two inches long, an inch above and parallel with the outer third of Poupart's ligament, through the skin and muscular tissues, and an inch and a quarter to an inch and a half through the serous membrane. Making the incision through muscle and skin larger than that through the peritonæum very much facilitates the introduction of sutures in the later steps of the operation. A finger introduced into the wound, directly down to the iliac bone and then directed inward, immediately comes in contact with the large intestine, which is drawn into the wound and recognized at once by the bands and glandulæ epiploicæ. At this point it will be proper to select a portion of the gut that has a mesentery that will permit its approximation to the abdominal wall without such traction as would endanger the sutures in the event of meteorism or vomiting occurring subsequent to the operation. This is ascertained by pulling on the knuckle that presents and, if the meso is too long, passing it onward, between the forefingers and thumbs from above downward, drawing out the proximal and returning the distal end, until a portion is arrived at where the mesenteric attachment is judged to be sufficient to prevent prolapse.

A noose of disinfected silk is now passed through the meso at its junction with the gut, and sufficient traction is made upon this to bring the two columns of intestine forming the knuckle parallel, and maintaining such relationship permanent, for the length of an inch or an inch and a quarter, by the introduction of a single or double row of Lembert sutures on either side of the mesentery. In the application of these sutures it is wise to avoid the very numerous small vessels that bleed freely when punctured.

The next step is to suture the parietal to the visceral peritonæum, and it is well to use two thirds of the opening for the proximal and one third for the distal opening of the gut. This line of suture will be oblique, leading from the point where the mesentery is transfixed by the temporary ligature around the side and crossing the gut about an inch on either side of the point where the contemplated section is to be made. The introduction of these sutures will be facilitated by using small tenacula to lift the peritonæum and hold it in relation with the gut while the sutures are introduced with Hagedorn's fine curved intestine needle.

The gut must now be divided transversely; the section must involve the whole lumen of the canal, except a very narrow strip at the point of attachment of the mesentery. When this is done, the parts are well irrigated, the temporary ligature is removed, and the margins of the incision are united to the skin.

Even with all these precautions, the two ends of the bowel terminating on the surface and attached to each other in parallel lines below the surface, it does happen, in some way inexplicable to me, that a portion of the contents from above will pass into the gut below for a few weeks, but after that time I think it may be predicted that everything will come through the artificial opening.

The operation described above is only applicable to cases where the obstruction is not complete. Its performance requires the introduction of twenty or thirty Lembert and several superficial sutures. They are not easily applied, and the operation is a long one. Indeed, I have very strong doubts whether it is not best to do the operation in the loin in those cases where the obstruction is complete and has lasted several days. In such cases there is frequently very great abdominal distention, and, if an anterior operation were selected, it might be difficult to prevent infection of the peritonæum. There is the advantage of doing the lumbar operation when the colon is distended that it is easily performed, and that the peritoneal investment is out of the way.

In the only two cases in which I have operated for complete obstruction due to stricture of the rectum the advantages of the loin operation were manifest. The first, occurring in the practice of Dr. Hunt, of Cornish Flats, and reported by him in the *Medical Record*, 1878, was for obstruction lasting twelve days, due to inoperable cancer. The lumbar operation was done, the relief was prompt, and the patient lived and was quite comfortable for two years after.

The other case was the last reported in the present series, also for cancer, out of the reach of the knife by any other operation than the one recommended by Kraske. Complete obstruction had lasted two weeks, the abdomen was enormously distended, and the patient's condition was very bad. The indications were for a rapid operation. The anterior operation was done, no attempt at the formation of a spur was made, the intestine was approximated to the abdominal wall by a few sutures, and an incision gave exit to a very large amount of fluid fæces. The patient died in a few hours from shock, and the autopsy revealed no traces of peritoneal infection.

Case I (*Reported by Dr. David M. Marvin*). *Carcinoma of the Rectum; Laparo-colotomy; Recovery.*—Thomas C., aged forty-nine, single, native of Ireland, occupation laborer, admitted to service of Dr. Briddon, Presbyterian Hospital, October 10, 1888.

Family history negative; has had rheumatism; has been intemperate, and uses alcohol freely; denies any syphilitic taint. For five months previous to admission, complained of diarrhœa, tenesmus, and pain in the rectum; stools small, containing mucus and blood; no abdominal pain or stomach disturbance; has frequent micturition, and has lost flesh and strength. On admission, is emaciated and anæmic; skin dusky, almost icteric; liver diminished in size; organs are otherwise negative. Rectal examination reveals a tumor of the size of a hen's egg involving the anterior wall of the rectum, two inches above external sphincter; also an annular growth at same level extending higher than the finger can reach; the new growth is indurated and tender on pressure, and extends into lumen of gut, though the finger passes through it readily.

October 24, 1888.—Patient submitted to operation of colotomy; no pain or elevation of temperature followed. Bowels moved from both the natural and artificial outlet on the day following the operation. Rectum washed out daily with one-per-cent. solution of creolin; sutures removed at the end of the first week; primary union.

During December patient experienced much difficulty in urinating; stream was retarded and attended with pain and tenesmus; fæcal matter passes through both openings.

In January patient decidedly improved; the trouble in urinating had ceased, and all the fæces passed through the artificial opening; blood and mucus occasionally discharged from the anus; odor controlled by the enemata of creolin.

March 19th.—He left the hospital very much improved physically.

Case II (*Reported by Dr. David M. Marvin*). *Carcinoma of the Rectum; Laparo-colotomy; Recovery.*—Carl K., aged fifty-three years, born in Germany, cigar maker, married, entered Presbyterian Hospital, service of Dr. Briddon, January 8, 1889.

Family history negative; uses alcohol moderately; denies syphilis; has suffered during the past year from what has been supposed to be piles; has complained a good deal of pain of a very severe and continuous character; stools mucoid and bloody. Has been steadily losing flesh and strength; patient is anæmic, cachectic, and much emaciated. Rectal examination reveals an ulcerated annular growth two inches above the anus, indurated, and fixed immovable to adjacent organs; it extends beyond the reach of the finger.

January 31, 1889.—Patient was submmitted to the operation of colotomy. Recovery from operation uneventful; bowels acted daily, everything passing through the artificial opening; he was shortly afterward removed from the hospital, and eventually died in his own home.

Case III (*Reported by Dr. David M. Marvin*). *Syphilitic Stricture of the Rectum; Laparo-colotomy; Recovery.*—Mary F., aged thirty-one, native of United States, married, housewife, entered Presbyterian Hospital, service of Dr. Briddon, January 14, 1889. Patient gives no alcoholic, tubercular, or rheumatic history, but a decided one of syphilis.

About nine years ago she commenced to use purgatives for gradually increasing constipation, and they became less and less efficient. Three years ago and twice since was operated on for stricture of the rectum, but each time with only temporary relief. She suffers severely from ever-present pain, tenesmus, and constipation, and has a constant purulent discharge from the anus. The lower four inches of the rectum is occupied by a continuous ulcerated surface—irregular, somewhat funnel-shaped, and the examining finger can not pass beyond it.

In view of the fact that long-continued intelligent treatment, including incision of the stricture, and on a subsequent occasion proctotomy, had done no good, the patient was advised to submit to an operation for artificial anus, and that operation was done on January 19, 1889. The recovery after the operation was uneventful; bowels moved daily after the third day; temperature ranged from 99° to 100° F. till the bowels moved, when it fell to normal and remained there. The lower bowel was washed out daily with a one-per-cent. solution of creolin. On February 5th the patient left the hospital in apparently perfect health, and suffering very little if any inconvenience from the artificial anus.

Case IV (*Reported by Dr. David M. Marvin*). *Syphilitic Stricture of the Rectum; Laparo-colotomy; Recovery.*—Mary M., aged thirty-three, married, born in United States, housewife, was admitted to service of Dr. Briddon, Presbyterian Hospital, on March 4, 1889.

The patient gives no alcoholic history. Six years ago she had an acute articular rheumatism. At the age of fifteen years she contracted syphilis from her husband. For the past ten years constipation has been her chief trouble, defecation being attended with great difficulty and pain, added to which she has a constant wearing pain in the left iliac fossa. Latterly she has ceased to have control over her bowels, and has a discharge from the anus muco-purulent in character.

On admission, she was found poorly nourished and anæmic. Temperature 100° F., pulse slightly accelerated, urine negative. There are some cutaneous tabs around the anus. A very tight stricture, which will admit only the little finger with difficulty; its upper limit can not be felt. *Per vaginam* the greatly thickened walls of the rectum can be felt, reaching up to the limit of the posterior fornix. The uterus and, in fact, all the pelvic organs are found matted together. In the upper part of the posterior vaginal wall is a fistula communicating with the rectum and permitting the passage of fæces.

On March 9, 1889, submitted to the operation of colotomy. Her bowels acted on the fourth day. Primary union obtained. Everything passed through the artificial outlet. The lower bowel was irrigated with creolin daily, her recto-vaginal fistula ceased giving her any trouble, she gained remakably in health and strength, and left the hospital cured on March 22d.

Case V (*Reported by Dr. Henry L. Shively*). *Stricture of the Rectum; Laparo-colotomy; Recovery. Service of Dr. Briddon.*—Maggie L., aged thirty-one, United States, married, housewife. Her father died of Bright's disease; otherwise there is no morbid family history. She had one child twelve years ago; following her labor she developed puerperal fever, and was confined to her bed for a period of three months. Seven years ago she underwent an operation for fistula in ano, and, three years later, a second operation for ischio-rectal abscess. The first symptoms of her present trouble developed a few weeks before the appearance of this abscess. She suffered from obstinate constipation, and there had been a progressive loss of flesh and strength. At times she suffers severely from shooting pains in the rectum, and obscure abdominal pain. Menstruation has always been regular.

On admission, the patient is very poorly nourished and anæmic. Urine contains a trace of albumin, granular and hyaline casts. On digital exploration of the rectum, there is detected a firm annular stricture, which, just admitting the index finger, extends upward and beyond reach; the walls are very much infiltrated, and the whole surface is ulcerated. The futility of palliative treatment having been demonstrated by the long-continued ineffectual use of bougies, the patient seeks relief by the operation of colotomy, which was done on October 11, 1889. The history afterward was uneventful; she had no elevation of temperature, had a few movements from the natural outlet, and then everything passed through the artificial opening. The relief was marked and prompt. She at once began to pick up health and strength, and was discharged cured on November 13th.

Case VI (*Reported by Dr. Frank Le Moyne Hupp*). *Laparo-colotomy for Complete Obstruction of Fourteen Days' Standing, due to Cancer of the Rectum; Death in a Few Hours from Shock; History.*—Samuel I., aged fifty-five, baker, family history of no interest; no rheumatic, malarial, nephritic, or syphilitic history; there is a mild alcoholic habit. Admitted to the medical wards of the Presbyterian Hospital on December 2, 1889, giving the following history: Two weeks previous to admission he was seized with general abdominal pain; its onset was sudden, and its character was sharp and shooting. Except one small unsatisfactory motion, the bowels have been obstinately closed since the first appearance of the pain. He has also been greatly troubled with vomiting.

On admission—temperature, 99·5°; pulse, 120; patient is fairly nourished, but anæmic; face is pale, and expression betokens anxiety. Tongue is coated. Abdomen markedly tense and enlarged, tender on palpation. In the right inguinal region there is more decided resistance to the touch; an elongated mass is felt, dull on percussion. In the middle and upper part of the abdomen a tympanitic note is obtainable; in the left inguinal region there is dullness, but the bulging is less marked than on the right side. Says that more than a year ago he experienced a similar but much less severe attack.

A rectal examination reveals an annular constriction about a finger's length above the external sphincter; it apparently occludes the lumen of the gut; there are several pedunculated growths growing upon its under surface.

December 5th.—Patient is transferred to the surgical division, service of Dr. Briddon, and immediately prepared for operation at 3 p. m. Ether narcosis: an incision was made an inch above and parallel with the outer third of Poupart's ligament, two inches in length; incision in peritonæum, an inch and a half; patient's condition was critical; no attempt was made at the formation of a spur; the colon immediately came into view, as recognized by longitudinal bands and appendices epiploicæ. It was drawn out, attached to the opening in the abdominal wall by a few sutures, and an opening was at once made, giving exit to a large quantity of fluid fæces and a considerable quantity of gas; when this ceased, the cut edge of the colon was secured to the skin, when a second and more profuse discharge began, and continued for some time. This was followed by a marked diminution in the abdominal distension; but the patient never rallied from the shock, and died about twelve hours after the operation.

In Case I it will be noticed that the contents of the alimentary canal continued to discharge through the natural anus for several weeks; this was due to the incision in the intestine in that case being made in the longitudinal instead of the transverse direction. It will also be noted in the histories of the cancer cases that they are reported as having been discharged cured; it will be understood, of course, that the term applies only to the conditions complicating the disease, and not to the disease itself.

In conclusion, I would beg to submit the following propositions:

1. By abolishing function in that part of the bowel below an artificial anus, and instituting another route of ingress for treatment, we retard those progressive destructive processes in cancer and in the quasi-syphilitic ulcerations,

and eliminate the principal causes of suffering associated with those diseases.

2. To prevent the annoyance caused by fæces passing from the part above to the part below an artificial anus, we must resort either to the objectionable method of Madelung, or to some of the various methods for the formation of an *éperon* or spur.

3. To prevent the annoyance of subsequent prolapse, we must make the section in the abdominal wall as small as consistent with the object in view, preferably through muscular tissue, following in other respects the advice of Cripps, selecting a portion of the colon that has a meso only long enough to reach the surface.

4. A great deal can be done in the treatment of non-cancerous stricture by the faithful, gentle, and long-continued use of bougies, and other local and constitutional means; but to derive the full measure of relief from iliac colotomy, it must be done early and before the occurrence of complete obstruction. When that has taken place, and we have to deal with a largely dilated abdomen, I believe that the lumbar operation is the preferable one.

REASONS FOR THE RELATIVE IMMUNITY FROM PULMONARY PHTHISIS IN COLORADO, AND ITS THERAPEUTIC IMPORTANCE.

By H. B. MOORE, M. D.,
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The word relative might almost be omitted from the above wording, for the number of cases of tuberculosis originating in Colorado are proportionally so small as compared with what obtains in other parts of the world that immunity from tuberculosis in Colorado stands practically as a fact. An immunity exists also in some parts of the South American Andes, in certain restricted areas in the Alps, and also in other portions of the world, the climatology of which has as yet been little studied. When we ask ourselves for the reasons for this immunity and look up what has been written on the subject, we are confronted with much speculation and uncertainty. In fact, not a small portion of the profession still holds to the belief that if such areas of immunity exist at all, it is only by virtue of an absence of the conditions usually present in thickly settled communities, or, in other words, that it is simply a negative, not a positive, attribute of said areas. With a view to settling this point, the Swiss commission was appointed in the year 1865 to ascertain and report upon the sanitary conditions and percentage of deaths from tuberculosis at different altitudes in Switzerland. The statistics accumulated by the commission covered a period of four years, and Müller in his published report states that, although no areas of absolute immunity were found, it was ascertained that, sanitary conditions remaining the same, a relative immunity existed at various altitudes, modified by latitude and local conditions. Independent observers in various localities have also given more or less conclusive testimony on this point —*e. g.*, Küchenmeister's collection of statistics for Saxony, Jacubasch's for the Hartz Mountain region, and those of Bremer for Görbersdorf—and the fact is further evidenced by the degree of immunity observed in the highly situated Andean cities and those of the Central American and Mexican plateaus.

Prior to the discovery of the tubercle bacillus by Koch in 1882, those who sought to explain local immunity were at a disadvantage, inasmuch as the intimate, essential nature of the disease was still unknown. Since that time, although bacteriology is doubtless still in its infancy, much has been learned of the grosser laws governing bacterial life and its propagation. We know, *e. g.*, that certain degrees of heat and moisture and certain media present conditions much more favorable than others to these low forms of life. We also know that these limits vary widely in different bacteria. It is from a study of these general laws and of the special facts relating to the culture of the tubercle bacillus that we are to draw data, whose comparison with the conditions found in a given climatic zone will aid, at least negatively, in the solution of the question. Without going into details exhaustively, the main facts concerning the conditions essential to the life and propagation of the tubercle bacillus, as determined by experiments in artificial media, are briefly as follows: The bacillus itself is extremely fastidious as to its culture medium and extraordinarily sensitive to changes of environment. In ordinary culture media—gelatin, agar-agar, and bouillon—it grows either not at all or very incompletely, and it is only in blood serum that it thrives. This sensitiveness is further exhibited to a marked extent against changes of temperature and dryness. Above 108° and below 86° F. development ceases entirely and is only complete at the temperature of the body.

This fact is so rigid that in its cultivation an oven kept at a uniform temperature is a necessity, and added to this is the third fact, that, owing to its very slow growth, there must be an undisturbed continuance of these conditions for a relatively long period. In the face of this, it might be a matter for wonder that the tubercle bacillus existed at all were it not that its spores are as exceptionally resistent and unyielding to adverse influences as the bacillus itself is the reverse. This spore formation goes on both in the body and outside in the sputum, and the resulting spores are among the most resistent known. They will stand dryness for months, temperatures of boiling point for hours, and long exposure to low temperatures as well. From a consideration of the foregoing, we can readily see that if bacilli were all we had to contend with, many climates could offer strong anti-tubercular properties. The disease might even soon cease to exist; but, unfortunately, tubercular spores have such powers of resistance that probably no habitable climate could enjoy immunity by virtue of any specific antiseptic properties possessed by it. It is, however, doubtless true that spore formation and the consequent multiplication of bacilli are much inhibited by the conditions peculiar to mountain regions. Miquel ascertained that in a given quantity of air taken as a standard for comparison there were absolutely no bacteria over the Mer de Glace at Chamounix, Switzerland; that in the same bulk of air in a hotel corridor at Lucerne were twenty-five and in Paris seven thousand. Of course the overwhelming majority of these organisms were non-pathogenic, and these facts admit of but limited application to the subject under consideration. The presence, then, of any specific germicidal effects in high altitudes not being admitted, we must look for the reasons for immunity in some change in the individual whereby he loses his susceptibility, or, in other words, no longer presents a ground adapted to the reception or growth of tubercular seed, or, as the bacteriologist would put it, he ceases to be a suitable culture medium. These changes in individuals living in the immune areas of Colorado are due to the following essential climatic peculiarities, whose effects and therapeutic significance will be briefly considered in the order named: Atmospheric attenuation, dryness, purity, increased opportunity for out-of-door life, and sandy, porous soil.

Among the most conspicuous effects of high altitudes is the increased expansive power of the lungs. This fact is so generally known and recognized that it needs no comment. It signifies, of course, that, owing to the atmospheric attenuation, to fully meet the needs of the system greater respiratory activity is necessary, and that portions of the lungs but little used at sea-level are brought into requisition, and the whole organ takes on increased functional activity with all the incidental nutritive advantages, according to the known law that tubercle has a special affinity for organs that functionate incompletely, and its converse, that their power of resistance and vitality exhibit a direct ratio to their functional activity.

The effects upon the heart and its nutrition are also conspicuous. At first the pulsations are considerably increased n frequency, but this disappears after a time, as the heart becomes gradually larger and the performance of its work more vigorous. In this connection the observations of Rokitansky are of much interest. He declared that the heart and vessels were always relatively small in chronic phthisis. I have often heard Formad, coroner's physician in Philadelphia, say that he had observed the same thing in arge numbers of autopsies, and Bremer, of the Görbersdorf Heilanstalt, said that it held true of the 14,000 cases treated at his institution during its history. Bremer was a pronounced believer in the theory that this relative smallness was a prominent ætiological factor in the production of phthisis, and that the benefit of the high-altitude treatment was to no inconsiderable extent due to the effect upon the heart and closely related pulmonary nutrition. Although this may seem rather hypothetical from our present standpoint nd mode of thought, yet it is better not to blind ourselves o its *possible* overtowering importance in predisposition, specially when we reflect upon how slight is our knowldge as to the essential nature of predisposition. It is at ny rate obvious that any change of environment having or its consequences such marked effect upon respiration nd circulation must be powerful for good or evil.

As a further effect of high altitudes is to be mentioned he marked improvement in appetite and assimilation. This seems to occur independently of any qualities in mountain limates other than atmospheric attenuation and the cold, racing air, and probably by the power these qualities possess of imparting to all of the organs a more perfect functional life, combined with a tonic effect upon the nervous system, thus overcoming "vulnerability" of tissue. The rôle played by extreme dryness can, it seems, hardly be exaggerated, and in its direct effect upon the local process is probably nearly equal in importance to elevation. Dr. Denison, of Denver, who has given this subject special study, has made some interesting observations on the increased osmosis of watery vapors at points on the eastern slope of the Rocky Mountains taken as a type of dry climates and places upon the Atlantic seaboard. He also says that "if we knew today the absolute humidity of, or the average amount of vapor in, a cubic foot of air in all parts of the country, we should have one of the most valuable indications possible of the best localities for phthisical patients. With some reservation as to temperature, the smallest ratios would indicate where consumption seldom originates." The infrequency of phthisis in the dry parts of Egypt, Australia, Arizona, and other places furnishes good evidence of the correctness of this view, at least as an adjunct to altitude; and in cases in which, for any reason, high altitude is contra-indicated, and the patient can not be allowed to enjoy a combination of the two, a low altitude with dryness should be chosen.

An absolutely dry air, possessing, as it does, great absorbent power, is actively opposedto suppuration, being, as it were, a constantly applied aseptic blotting-pad to suppurating surfaces, and quickly drying up those patches of broncho-pulmonary catarrh so frequently the nidi for tubercular infection. The drying, shriveling process which beef or carcasses exposed to the air in exceedingly dry countries undergoes will be a familiar and remembered example by those who have observed it. Apropos to this subject, I wish to make a few remarks on equability of temperature and wind.

Exceedingly dry countries, like Colorado, show an entire absence of that equability which is the concomitant of and can only be secured by the latent equalizing influence of large surrounding bodies of water and moist atmospheres, of which Florida is an example; hence those writers who speak of "dry equable climates" affirm what is paradoxical and, from the teachings of physical science, impossible. As for wind, a study of the mechanism of its production will show that it also is a necessary feature of dry climates, and if it is not found in a special area, it can only be a local accident—the result of a sheltering range of hills or spur of mountains. Dryness has the further advantage of robbing oscillations of temperature of the danger and discomfort otherwise attending them. The special *purity* of mountain air is well shown by the results of Miquel's observations above alluded to, which have obtained such wide-spread currency, and, excepting warmth, purity is the most classic desideratum in the selection of climate for phthisis. Dr. Anderson, of Colorado Springs, believes that the beneficial effect of the Colorado climate is due almost entirely to the purity of the air and its aseptic condition. This is also the view of many of the most eminent clinicians of Europe and this country, and its importance is emphasized by the preponderating influence in the production of phthisis of crowding and poor ventilation. Now, while I have no intention of being heretical upon such an essentially orthodox point as the necessity for pure air in general, yet I think its importance has occupied the professional mind for a long time to the exclusion of what are in this connection more unique climatic attributes. Otherwise how can we account for the degree of immunity which still exists in many large, growing cities at high altitude, of which Denver may be regarded as an example. The sanitary conditions in these cities are certainly not above the average for cities of their size ; in many cases conspicuously worse, as evidenced by the prevalence of typhoid fever and other diseases associated with such conditions. In view of this high appreciation for pure air, it is curious to note the proposal in Germany not long ago to treat pulmonary tuberculosis by spray inhalations of highly fœtid, stagnant water, containing the *Bacterium termo* in large quantities—the theory being that these bacteria would antagonize and eventually destroy the bacilli of tuberculosis in the lungs in a manner similar to what occurs in impure artificial culture media. Many who gave this seemingly unpromising method a trial professed benefit, but most met with negative results.

Our next point, the largely increased opportunity for out-of-door life furnished by the climate of Colorado, becomes obvious when one learns of the unprecedentedly large number of sunshiny days during the year and the average monthly temperature throughout the same, rendering out-of-door life not only possible, but a pleasure during every month. In this respect the advantage of Colorado over the Engadine and similar high-altitude resorts abroad is most conspicuous. Of the happy influence exerted by out-of-door life, particularly in early cases, no one has a doubt. It has been the universal experience everywhere in localities of no special promise. The last point to be mentioned is the character of the soil, which, along the eastern slope of the mountains in Colorado, is sandy and porous. Dr. Solly states that in the neighborhood of Colorado Springs this sandy, porous soil obtains to the depth of sixty feet. Dr. Bowditch, of Boston, and others since have accumulated a mass of evidence to show that phthisis is much more frequent in localities having a heavy, moist, or clayey soil, and, although some have attempted to show that the opposite character of soil has some special positive virtue, it seems more rational to attribute the salutary influence of sandy, porous soils to their influence on dryness of air and drainage. We owe the immunity in Colorado, then, chiefly to the physiological effects of high altitude. This is powerfully supplemented by extreme dryness, while the almost unbroken sunshine and favorable temperatures lead to a maximum amount of out-of-door life, rendering the specific action of altitude thoroughly available. Probably no one of these climatic attributes would be sufficient in itself, but the sum of these conditions effect such a change in the human economy, viewed in the light of a medium for tubercular cultivation, that it becomes unfitted to the end ; and in cases of the disease not too far advanced, this influence antagonistic to the tubercular process is so strong that it becomes antidotal and a most valuable therapeutic agent.

To fully appreciate the fairness of this conclusion, a correct conception of the natural history of phthisis is most essential. It has been variously estimated by different observers that the lesions denoting a pre-existing phthisis are found in from thirty to sixty per cent. of all autopsies. Very many of these people have had phthisis and recovered without knowing it. Flint has shown that in a large number of cases of phthisis there is an intrinsic tendency to recovery irrespective of any special treatment or management. In these cases the system exhibits a marked tolerance for the disease, and it occasions but little disturbance.

In all ordinary cases of phthisis pursuing a chronic course, Nature makes strong and repeated efforts at self-cure, the tubercular mass frequently becoming encysted and shrinking into a hard, atrophied, innocuous mass. When these efforts are not successful, the repeated attempts at fencing in and curing are not less evident, both clinically and post mortem. Thus we see that phthisis is not a disease that is necessarily fatal, and it appears that these climatic influences which we are considering are just sufficient to turn the balance in assisting Nature on the local process, and to put the stamp of success on what she herself so earnestly attempts. I know of no words that better express what may be expected in properly selected cases coming to Colorado than these by Dr. Knight, of Boston: "It is perhaps not too much to say that the prognosis in this class of cases (early apex disease) has been changed from very bad to very good."

ADENOID TISSUE IN THE NASO-PHARYNX AND PHARYNX.

*PRELIMINARY REPORT.**

By H. L. SWAIN, M. D.,
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Several years ago, while studying the development and history of the lingual tonsil, many observations were made upon this variety of tissue as it presents itself in other portions of the pharynx, and it was the writer's purpose, at some future date, to continue the study of these latter portions of adenoid tissue, tracing the life history of the whole mass. To a few observations thus made in obedience to the above purpose the writer would ask your lenient attention, hoping more to elicit thereby a discussion that shall prove profitable, rather than with any idea of adding anything of value to the knowledge already at hand in extant literature.

Since beginning the work in this direction much has been written on this tissue, and a great many points which interested the writer at the start have been definitely settled, but at the same time the field has broadened, and so, instead of busying ourselves with minute details, let us consider as a whole this ring of tissue which we are pleased to call adenoid, situated at the junction of the œsophagus at its dilated upper extremity and the mucous membrane of the mouth and nose. In so doing, however, we may not slight its principal component parts, but must consider them in their relations to each other and to the whole, and their joint or comparative life history.

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* Read before the American Laryngological Association at its twelfth annual congress.

Situated as is this ring of tissue, acting as a sort of bridge or other bond of connection between structures which are, on the one hand, originally developed from the entoderm of the embryo, and, on the other, with parts largely affected by ectodermoidal influences, it differs from the tissue in its immediate neighborhood quite considerably. It also has slight variations in the structure of its different parts—a difference in their life history—for some parts atrophy early, while others seem as active as ever even up to the middle of life, and yet all these differences are to be more than outnumbered by the variety of opinions as to the purpose of the adenoid tissue and its function in our economy.

To state in general what we know of the life history of these interesting parts, we might put it as follows: That way back, early in the uterine existence of man, the deposit of small cells underneath what then is the epithelium of the naso-pharynx and pharynx begins, accompanied or at times preceded by a slight furrowing of the membrane; very soon after this beginning comes the outwandering of the same cells through the epithelium. At some time later, the date varying in different portions as does that of the beginning, thickening takes place, and soon development of follicles. After a time, when extra-uterine life has begun, all parts grow on apparently alike until puberty, or toward adult life. Then activity seems to subside and a gradual retraction takes place. In general, we find already in late youth a beginning of atrophy in the pharynx tonsil, later on the faucial tonsil begins its retrogression, while way into adult life we find the lingual tonsil still unatrophied.

The apparent corollary of the foregoing is borne out in clinical experience, for we have in young children the adenoid tissue in the naso-pharynx and faucial region more often affected by disease. In youth and early adult life the faucial tissue attracts our attention, while in a large majority of the cases which demand treatment the lingual tonsil seldom appears to be affected before the twenty-fifth year. Of course we have many exceptions, as acute affections of the pharynx tonsil in the adult, or enlargements of the lingual tonsil in the child. There is also, in general, the same order of development—that is, the pharynx tonsil begins certainly as early or earlier than the faucial, while both precede the full development of the lingual tonsil by quite a long period. In all, the formation of follicles follows at some considerable time interval after the deposit of small cells takes place, and in the case of the lingual tonsil it eems quite certain that pathological conditions favor the earlier development of the follicles, and that the more hypertrophied a portion becomes, the more follicles it conains. It proves to be also true that in the atrophy of the ingual tonsil the follicles first break down and disappear, and then a general diminution in the number of cells in the nfiltrating mass under epithelium. This would seem to be lso true of the other portions of this tissue in the pharynx, ut, from individual investigation, the writer can not say, or this is one of the points aimed at in investigating this ubject, and it is proposed to examine all portions of this issue at the different periods in life, making comparative bservations on the condition of the different parts.

In studying the development of the pharynx tonsil we have a great authority in Killian (5),* and the observations made by the writer entirely coincide with his, so I shall venture to quote him quite at length. He examined in all some sixty-five human embryos, and found that, while the real bursa pharyngea, according to Froriep, came as early as about the eleventh week, the first folds in the mucous membrane at the vault of the pharynx appeared at the beginning of the sixth month. These folds preceded any appearance of small cells, which begins usually toward the last of the sixth month. During the seventh and eighth months the folds assume a size sufficient to be discovered by the naked eye. Soon they assume the irregular details familiar from observation in the adult, the folds being often upright with occasional transverse. There is every variety of form and extent in the case of these changes, and the time of their appearance is far from regular, or the tonsil may be wanting entirely at birth. The real adenoid tissue is formed by the mucous membrane taking up numerous round cells, until it becomes quite full and, by a rapid proliferation of these cells, grows considerably thicker. In the beginning the whole process confines itself to the posterior three quarters of the roof of the pharynx; later it spreads down on to the posterior wall of the pharynx. It is always thickest in the front region of the bursa—*i. e.*, just in front of the angle or curve formed by the roof with the posterior wall of the pharynx. Toward the end of the embryonal life these folds become thick protuberances and form deep furrows, of which the middle one appears to be the greater. At about this same time the follicles (Schmidt) (10) appear, although in certain cases they may not be found for some time after birth. These glands have no hollow spot, as in the case of the other collections of conglobate glands. Mucous glands are more abundant in the superior-lateral regions of the naso-pharynx.

After birth there is an apparent change of position of the pharynx tonsil which he states as follows: "The pharynx tonsil of man moves, between the sixth month of embryonic life and end of the second decennium, from the baso-sphenoidal to the baso-occipital region."

From his studies in comparative anatomy he concludes that in mammals the pharynx tonsil is not so constant as the faucial tonsil in its occurrence, but at least is as frequent as the lingual. In the lower forms of life, as in birds and reptiles, it is present in a well-developed form, and therefore, of all these collections of lymphatic tissue in the throat, is the oldest. Perhaps right here is a favorable opportunity of stating some observations by Beard (1), reported in an article entitled The Old Mouth and the New. In this he seems to present logical reasons for supposing that the old mouth—viz., the mouth which the lowest grades of animals, as the worm, possess, a direct continuation of the œsophagus to the surface—was by means of the hypophysis cerebri through the present infundibulum to the upper and back part of the head. Such having been the case, we have abundant reason for the fact of the frequent occurrence of the pharynx tonsil in the lower grades of animals, and in this latter the reason for the earlier development and activity of these tissues in man.

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* Numbers refer to literature.

One other point of importance and I am done with the embryology of this part: "We must conclude that all three tonsils and the whole adenoid tissue at the beginning of the embryonic intestine are formed by the participation of the entoderm as motive principle, and the mesoderm as the source of the adenoid infiltration. These parts must be looked upon as morphologically similar to the lymphatic organs of the whole intestinal canal."

We find in these statements of Killian much which is not in strict accordance with the hitherto accepted views, but I can heartily agree with him when he states that the real bursa pharyngea, pure and simple, as described by Tornwaldt and Luschka, has only a somewhat inconstant embryonal existence, and does not persist as such in the adult, or even long into childhood. It is not the dilated end of the hypophysis cerebri, or rather the canal from it to the pharynx. The true bursa exists before the tonsil proper begins, and is not to be confounded with the recessus pharyngeus medius of the adult, differing thus entirely from Schwabach (12) and Ganghofner (4). Poelchen (8) is perhaps the latest writer on this subject. He avoids all questions as to the bursa or recessus, but insists that the median groove exists all through life, and must necessarily do so, because this portion is attached so firmly to the base of the skull, between the insertions of the longus capitis muscles. In a patient where the side of the face had for surgical reasons been almost entirely removed, thus giving a clear view directly into the naso-pharynx, it was the only portion of the pharynx which did not participate in the motions of the act of swallowing, the pharynx walls always coming together from side to side.

Having thus considered the upper portion of the ring of adenoid tissue, as we come down on either side we have the lesser accumulations, such as the tube tonsils, the lateral column of the pharynx, and then we come to the faucial tonsils. Concerning the first two I have little to say, but a point that I have not yet sufficiently proved seems, however, to be probable from abundant clinical observation—viz., that, while the lateral columns may not possess any actual conglobate glands in any number, still, in common with the lingual tonsil, they preserve a later activity than the other parts, for we frequently find them hypertrophied together in late adult life.

Of faucial tonsils we know definitely that the beginning is as a fine groove, around which the infiltration accumulates, which goes on to the formation of deep sulci and the development of the organ so familiar to us all. In point of time the faucial tonsil seems to begin about the same time or perhaps a little later than the bursa pharyngea of Killian. According to Kölliker, the follicles of the conglobate gland are always nicely developed at birth, and he mentions the same as a fact in connection with the lingual tonsil. As regards the latter, such is, from my own observations, not at all constantly the case, for, as stated in another place, many cases of young children were examined where not a follicle was to be found. The time seems to be quite uncertain, and as regards the first appearance of the infiltration, I have not had a chance to examine very young embryos. Suffice it to say that this same infiltration antedates the appearance of actual follicles by a considerable interval, and at some future time I hope, from human embryos now in my possession, to be able to speak more definitely. In animals the lingual tonsils begin at a decidedly later interval than the others in almost every instance.

Having observed these differences in the time and kind of formation in the various parts of the throat, we find a very beautiful connection with the observed facts in clinical history. The pharynx tonsil, the older organ in the history of animal life, is first affected in childhood by whatever of pathological changes take place in this tissue, and having fulfilled, as it were, its mission, even when not affected pathologically, it later atrophies, and this work is assumed by other parts. What is true of this portion seems later true of the faucial tonsil, while, to finish up with the work, we have, as the more persistent member of the group, the lingual tonsil, and perhaps the lateral pharyngeal columns. A later report will deal with this retrograde metamorphosis.

Evidently this tissue is not present in our bodies in the position which it occupies without fulfilling some definite purpose, and is it not possible to make some inference from this peculiar history of development and atrophy?

Killian states that the only function which these considerable surfaces, through which multitudes of leucocytes are constantly emigrating, seem to possess, is evident in the power which these cells have to destroy micro-organisms. Hence he would argue that the pharynx tonsil, being the first met by the incoming air, would play the greater part in ridding the system of these dangerous elements always present in the air about us. More of these little creatures are to be supposed to be present in the impure air that occurs in close rooms, and consequently there would be a greater demand put upon this organ in the animals subject to these conditions—*i. e.*, man and the house or domestic animals. This increase in demand for leucocytes would lead in the course of generations to a greater development of these tissues, and man and the animals referred to would come to possess larger adenoid collections, a fact borne out by his observations in comparative anatomy, excepting, perhaps, that rodents, save the rabbit, do not appear to be blessed with much of any adenoid tissue.

The converse was equally well borne out by his observations, for in those animals where the nose is long and very complicated, and the air does not come directly in contact with the pharynx tonsil, as in man, no such eminent demand would be made on this tonsil, and so in succeeding generations we would see it disappear as is the case with many mammals. His opinion is somewhat influenced, if we may be allowed the inference, by the interesting account which Metschnikoff (6, 7) gives of the warfare waged by the leucocytes or their analogue in the *Sprosspilzenkrankheit* of the *Daphnidæ*, and against the erysipelas micrococci. He observed unquestionable examples of the antagonism existing in these cases, and so the inference was fair that a like animosity exists against other micro-organisms.

Spicer (13) believes, in common with H. Fox, that the pharynx tonsil, as also the other adenoid tissue, acts as a preventive against too great a use of fluid, in that, in the pause between each two acts of swallowing, they absorb the fluid of mucous membrane of the mouth, as also certain parts of the food while they are passing by; and finally, as a place of nourishment for the leucocytes, they take part in production of blood.

In common with Schmidt and Stöhr (14), they all agree that the collection of the leucocytes here must have some significance in regard to the blood; in short, adenoid tissue is a sort of blood-producing organ; but Killian rather puts this feature in the background and thinks the function is more in the way of protection against deleterious matter.

Davidoff (3), in speaking of the leucocytes in the intestinal epithelium, puts another interpretation upon their presence in this situation, and, far from supposing them to be fighting micro-organisms, he conceives that they are the carriers of some of the digested food through the epithelium into the intestine. Thus he believes in direct opposition to Stöhr, who first drew attention to the immense immigration into the throat. Stöhr, while he says but little about the fate of the leucocytes after they leave the epithelium, distinctly believes in there being some relationship existing between the demand of the rest of the body for leucocytes and the number present in adenoid tissue, for he mentions an almost complete lack of cell immigration in several cases of persistent formation of pus, pyo-pneumothorax, and a considerable lessening of the normal number in a case of leucæmia.

Whichever of these theories we adopt, we can not escape from certain difficulties in trying to explain certain observed phenomena. For example, if the sole purpose of the adenoid tissue of the throat is to furnish leucocytes, which shall protect us from the invading host of rapacious micro-organisms, then we may safely conclude that for those who breathe through the nose the pharynx tonsil is really the most valuable in this particular. Is it not strange, then, that this should be the first to atrophy, when it is the one most needed? To be sure there are the other parts still left, but they can not get at the inspired air. Or must we suppose that the pharynx tonsil takes care of the air, while the faucial and lingual do duty in fighting the organisms present in the secretions of the mouth and pharynx? This takes place in the youth of the individual, and later in the adult there is not such an urgent necessity for such protection in that other organs may do the work, or the system be more capable of resisting. Certainly if the above be the case, we must not be hasty in removing enlargements of these organs unless we find them to be producing disease of other parts, for one can not have too many leucocytes at his command. And yet while we find these little inconsistencies, surely we must almost *a priori* conclude that the leucocytes must exercise some protective influence, and that an active one, for how could we otherwise so often escape infection? Surely nothing would seem more favorable to the ingress of organisms in the system than the tonsils, which present in the lacunæ the most convenient of resting places for microbes, and then in the openings which unquestionably exist in the epithelium we have an almost open door for the entrance of the little micrococcus. Granted that the majority of the organisms referred to are entirely innocuous, still some are not, and were it not for some active interference, we must often become infected under the conditions just quoted.

The question of retrograde metamorphoses or pathological changes we must leave for the report of future observation, which I hope to make. Meanwhile let me simply mention again the observation of Poelchen, which he cites to explain the very frequent appearance of and persistence of diseased conditions of the secretion high up in the naso-pharynx. The close union of the apex of the recessus medius by fibro-cartilaginous bands to the base of skull between the muscles rectus capitis gives an immobility to the parts that tends to the retention of secretions, and that the more as by the movement of the side walls toward each other it is into this recessus that the secretions are poured as into a conduit. The deduction is to supply what nature does not afford, and especially to be observant of adhesions or thickenings, which may hinder the easy downward flow from the recessus.

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PRELIMINARY CAPSULOTOMY IN THE EXTRACTION OF CATARACT.

By T. J. TYNER, M. D.,

AUSTIN, TEXAS.

Owing to the great amount of literature recently devoted to the subject of cataract extraction, I owe it to you as a matter of courtesy, as well as in justice to myself, to say I would not presume to bring it forward now had I not failed after diligent search to find a precedent for the operation which I shall hereafter describe, and which I believe possesses some merit. The nearest approach to it is in opening the capsule with the point of the knife as it enters the anterior chamber while the section is being made and with which you are all familiar.

The leading point in the operation is in making the capsulotomy the primary step, thereby enabling the operator to deliver the lens at the very moment the corneal section is completed. I will not encroach upon your time with the progressive history of the many methods devised by different operators, nor with the details of this operation as to instruments, antiseptics, after-treatment, etc., as they differ in no essential particular from the generally accepted measures in other methods.

Supposing the eye to be now ready. A Bowman stop-needle is thrust into the anterior chamber—the pupil having been previously dilated—the point of which, and also the entire field of the incision, are in full view.

The capsule is now lacerated in its upper quadrant, the line of incision corresponding to the upper pupillary curve of the iris. In this manipulation and in withdrawing the needle, the greatest care should be observed that no aqueous is lost. The eye is now practically undisturbed and as favorable for the corneal section as before, which is to be done quickly, using a Graefe knife, preferably rather broad. When the section is finished, pressure with the flat of the blade causes the corneal opening to gape, when at the same moment counter-pressure with the fixing forceps below aids the expulsion and the lens glides out through the still open pupil with surprising ease.

I will mention here that the lens, having no choice, or rather no other avenue of escape, almost always indicates a tendency to follow the knife as the corneal incision is progressing, and when it is finished the lens is partly in the anterior chamber. I state this to demonstrate why it is so promptly delivered and that the foregoing expression is not extravagant.

The operation is simple throughout and easily done, and is accomplished when the most difficult part in other methods begins. An additional point of interest is: If the lens is susceptible of being dislocated—and this is made manifest so soon as the needle touches the capsule—there is, in my experience, no way to accomplish it so perfectly and harmlessly as with the needle at this stage of the operation. This is somewhat similar to Delgardo's method, and, strange to say, was the result in my first case, which occurred last October. Since then I have performed the operation twelve times with a good result in each one, or, to be more definite, with the exception of two cases, the result was far better than that formerly achieved. In the two cases referred to there was severe iritis with posterior synechia, and in four others it was manifest, but only in a very mild form. In the remaining six cases there was absolutely no reaction. I am inclined to think the iritis was in part due to the excessive strength of the atropine used in dilating the pupil, which, a few hours after the operation, reasserts itself, hence crowding the iris nearer the corneal wound. I now use the weakest solution of atropine that will serve the purpose. Eserine might be useful in some cases, though as yet I have not felt the necessity of resorting to it.

I neglected to mention in the foregoing statement that in three of the cases the lenses were extracted in their capsules.

If you will now bear with me a few moments longer, and I trust not without interest, I will relate the circumstances, which by the way were partly accidental, that led up to the development of the operative procedure above described. In July, 1885, I operated on a Mexican, and while I was opening the capsule, having done an iridectomy, fluid vitreous escaped so rapidly that the globe was so collapsed that the lens could only be delivered by the aid of the iris forceps, having fallen into the posterior chamber. Singular to say, there was a good recovery with useful vision, which result encouraged me a few weeks later to attempt the extraction in the other eye. Anticipating the same condition of vitreous, the thought suggested itself to open the capsule with a needle previous to making the corneal section. This was successfully performed, and, while there was loss of vitreous (fluid), it was slight compared to the first. This case is recorded in the published statistics of Texas surgery in 1886. This little procedure passed out of my mind until the discussion became so general in regard to a return to the simple extraction, which later on was adopted by most operators. It was not my wish to give up the iridectomy, but in the mean time, however, I had several cases in which the lens popped out through the pupil just as the section was completed—one in which I had opened the capsule with the point of the knife as it entered the anterior chamber, the patient at the moment the section was finished squeezing the eye. Another case was traumatic, in which the particle of steel could be distinctly seen in the lens, which had thoroughly lacerated the capsule. This was a fac-simile of the preceding case, the fragment of steel coming with the lens. This case, together with others, impressed upon my mind that the lens indicated a tendency to escape, and, as a natural consequence, sought the course of least resistance. Upon this hypothesis I endeavored to make the simple extraction in this way—*i. e.*, by opening the capsule with the point of the knife; but it was attended by so many failures to make the rapid extraction without injury to the iris that I abandoned it. About this time I recalled to mind the preliminary capsulotomy done with the needle in 1885, which a few months later (after returning from my summer vacation) I put into practice with the results as above given.

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THE ACTION OF MICROBIAL PRODUCTS ON MICROBES AND ON THE ORGANISM.

"Microbes are always the indispensable cause of virulence; they are always the cause of immunity, I dare not say the indispensable cause, but they only produce their effects by means of the chemical matters that they secrete." With these words Professor Bouchard premises, in the *Revue de médecine* for July, one of the most comprehensive studies of the action of the products secreted by pathogenic micro-organisms that have appeared. The subject has been studied experimentally by the action of bacterial products on microbes; by the action, both harmful and useful, of these products on the animal organism; by the action that the products of a microbe exercise on the infection produced not only by that but also by another microbe; and by an examination of the measures by which these products influence infection, by their action both on the microbe-destroying state of the humors and on phagocytosis.

The products of the vitality of a microbe, as of all living cells, are multiple. Many of these substances are not toxic, but the toxic matters of a single kind of microbe are numerous; they are diastases, alkaloids, volatile acids, etc. And the author believes that the inoculable are distinct from the toxic matters. Among the local lesions of infection, the chemical alterations of tissue depend on diastase, but it is extremely probable that the paralysis of the leucocytes, the obstacle to phagocytosis, is due to some other toxic substances, called toxines. Infectious fever seems to be due to diastatic substances, and perhaps to certain cellular alterations that occur in the liver, kidneys, and muscles, while any nervous phenomena depend on the toxines. Whatever the substance that produces immunity, it is not believed that it is a diastase.

The conclusions deduced from the experiments seem to prove that among the substances secreted by microbes is a substance capable of injuring directly the development, multiplication, and secretion of the micro-organism, although this is indirectly favorable to the microbe by chemically modifying the environment. There are substances secreted by a microbe that are either inhibitory or favorable for microbes of other species. There are microbes that secrete substances poisonous to animals, and it is this toxicity that constitutes the virulence of a microbe.

While there are pathogenic microbes that secrete inoculable matter, it is not by its presence alone that this matter produces immunity, for in some way the inoculable matters so impress the animal organism that even when they are eliminated the humors permanently remain less propitious to the vitality of the same microbe. The inoculable substances change the activity of the cells in some fashion, so that even when eliminated the leucocytes, though confronted by the same microbe, more abundantly effect diapedesis and more energetically accomplish their phagocytic function.

Though the soluble matters of a microbe when injected at the same time with an inoculation of the same microbe render the infection more intense, yet the same matters injected some days before inoculation, far from aggravating the infection, inhibit or attenuate it. With antagonistic microbes—that is to say, those in which a simultaneous inoculation generally develops one only—it is noticed that the soluble matters of the stronger inhibit the weaker, though if injected at the same time with an inoculation of the weaker they produce a moderation and attenuation of the infection most pronounced if given in the same locality. Auxiliary microbes may, by the inoculation of one or the injection of its soluble products, allow the other to develop in an animal that is naturally refractory, though, in case the virulence of the microbe should be slowly attenuated, it would only develop in an unrefractory animal.

The bacteria-destroying condition of the animal organism produced by the injection of bacterial matters should appear at the end of the first twenty-four hours; and it is neither suppressed nor suspended by a new injection of such substances as have conferred the immunity. In animals that have a natural or acquired immunity, and that are capable of resisting a pathogenic microbe by phagocytosis, the soluble products of that microbe would inhibit phagocytosis, while in animals having no immunity, natural or acquired, but capable of resisting non-pathogenic or attenuated pathogenic microbes by phagocytosis, the products of a virulent microbe will inhibit the phagocytosis. These results prompt the question of what other substances, microbial or not, can produce the same effect on phagocytosis, or is the latter the mechanism by which they act?

ŒSOPHAGEAL VARIX A CAUSE OF HÆMATEMESIS.

Sudden death by hæmatemesis is a not uncommon event in cirrhosis of the liver, and cases where, without any warning, a person habitually intemperate vomits blood occur with sufficient frequency to render the study of the exact mechanism of the hæmorrhage a matter of some importance. Latterly the whole question of portal obstruction and its effects has been receiving a good deal of attention. Litten (*Berliner klinische Wochenschrift*) has been experimenting upon the circulation in the liver of dogs and studying the clinical phenomena in portal obstruction. In five cases of hepatic cirrhosis where death was caused by vomiting of blood he has found that the fatal outflow came from the rupture of enormous varicosities situated at the lower end of the œsophagus. For the whole extent of its course the gullet is richly supplied with veins, and of these the upper ones, by means of the inferior thyreoid veins, empty into the superior vena cava, while the veins supplying the lower part of the tube form above the cardia a large plexus communicating but in a very slight degree with the portal vein, and emptying mainly into the vena azygos. When, as occurs in cirrhosis of the liver, the flow of blood in the portal vein becomes obstructed, its blood passes for the most part into the vena azygos, which conducts it directly to the superior vena cava. The blood of the gastric coronary veins and that of the gastro-duodenal veins especially passes in this direction. As a result, the vena azygos, already overloaded, can not receive all the blood of the œsophageal plexus, hence the formation of varices the rupture of which gives rise to a hæmatemesis and leads to the supposition that the vessels in the stomach have given way.

The same subject occupied the attention of the Section in Medicine at the recent meeting of the British Medical Association at Birmingham. The liability to sudden death from hæmatemesis in cases where there was no ascites, or in fact any symptoms, was emphasized in Dr. Saundby's paper on the Varieties of Hepatic Cirrhosis. Dr. Stacy Wilson's paper dealt especially with varices as a cause of hæmatemesis in cirrhosis of the liver. He drew attention to the dilatation which took place in the veins in the lower part of the œsophagus, which in some cases prevented ascites, and pointed out the effect of the sphincter of the cardiac end of the stomach in preventing the blood of the coronary vessels from getting into the œsophageal branches in normal conditions, but said that, when portal obstruction occurred, the tension in the coronary vessels overcame the action of the sphincter, and the œsophageal veins became varicose and might rupture. He thought this was a common cause of hæmatemesis. He had found œsophageal varices in five cases of hepatic cirrhosis, and in most of these there was rupture. Dr. Ratcliffe exhibited specimens of varicose ulcers in the œsophagus and one in which there was thrombosis of one of the œsophageal veins, from cases of hepatic cirrhosis in which hæmatemesis had occurred.

MINOR PARAGRAPHS.

FATAL POISONING BY MUSSELS.

Sir Charles Cameron, M. D., of Dublin, contributes to the *British Medical Journal* a preliminary note regarding the Seapoint tragedy from mussel poisoning, whereby five persons lost their lives. At Seapoint, near Dublin, a family of seven, consisting of the mother, her five children, and a maid-servant, partook of a meal of stewed mussels. They were all made sick within twenty minutes after the ingestion of the meal, and in an hour one of the children was dead. The mother and three other children succumbed before the second hour had elapsed. The symptoms began with the pain of pins and needles in the hands. Graver symptoms followed rapidly, such as vomiting, dyspnœa, swelling of the face, loss of co-ordination in movement, convulsions, and spasmodic movements of the arms. Death appeared to take place by asphyxia, the faces being intensely livid. One child and the servant, who probably ate only a few of the mussels, recovered. The pond whence the shell-fish were obtained is a small body of water to which the sea has access at high tide; it also receives fresh water and some sewage. The water at high tide shows twice as much saltness as when the tide is out. The drainage from the land is necessarily, from certain local conditions, impure. The uncooked mussels that remained at the place of poisoning differed from other mussels obtained from the open sea in having much larger livers, and their shells were very brittle. The generic tests applied, in order to discover if an alkaloid was present, clearly proved that a leucomaine existed, which, indeed, was obtained in crystals, visible under the microscope, and corresponding to the substance that Brieger has described as occurring in the poisonous mussels examined by him. The quantity of the leucomaine thus separated by Dr. Cameron was insufficient for a thorough examination, and it became necessary for him to procure a further supply of the shell-fish from the pond above mentioned. He expects to extract therefrom a substantial quantity of the leucomaine, for the purpose of a complete identification of it with the mytilotoxine, $C_6H_5NO_2$, of Brieger. The Seapoint calamity is another instance of poisonous shell-fish being the product of a foul or stagnant water. The liver of the poisonous fish becomes the seat of disease and generates the leucomaine, the disease in question probably being the result of the injurious action of its food supplied from a contaminated pond-water. Dr. Cameron states that he has examined the literature bearing upon mussel poisoning, and has found that many of the waters whence the mussels have been obtained were stagnant or impregnated with sewage.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The Richfield meeting of the association was a most successful one. To this two factors contributed: First, the character of the scientific work; secondly, the liberal hospitality of Mr. Proctor, the owner of the new bathing establishment, and the courtesy of Dr. C. C. Ransom, the medical superintendent. Elsewhere we give an abstract of the scientific proceedings; it is our purpose now to note the social side of the meeting alone. The association assembled on a Tuesday morning in the solarium of the new bathing establishment. After dinner the members were driven around Lake Canadarago. In the evening the grounds of the Spring House were illuminated with Chinese lanterns and the members were conducted through all parts of the well-equipped bath-house. After the evening meeting a supper was given in Dr. Ransom's offices. On Wednesday afternoon, by Mr. Proctor's invitation, the members went to Lake Otsego, some twelve miles off, and partook of a fish and game dinner. The entire service of the baths was placed at their disposal for the time being. The baths themselves are deserving of special mention. For size, arrangement, and completeness they are unsurpassed. They are arranged in two corresponding halves for the two sexes, each half containing some thirty-eight separate baths with a large resting room, and a complete Turkish bath. Besides these there are a swimming bath, inhalation and pulverization rooms, gymnasia, a solarium, doctor's offices, a drinking fountain, a bazaar, a barber's shop, and a chiropodist's room. The whole establishment is watched over, as well as the persons who use it, by the very competent medical superintendent. The association elected officers for the ensuing year as follows: Dr. F. B. Greenough, of Boston, president; Dr. L. N. Denslow, of St. Paul, vice-president; and Dr. G. T. Jackson, of New York, secretary and treasurer. Four new members were elected, namely, Dr. J. A. Fordyce and Dr. C. W. Cutler, of New York; Dr. M. B. Hartzell, of Philadelphia; and Dr. J. Grindon, of St. Louis.

A NEW CULTURE FLUID.

Dr. G. M. Sternberg gives the *Medical News* a short note, interesting to laboratory-workers and others, on the use of the fluid contained in unripe cocoanuts as a culture medium. This fluid, unlike that of the ripe nut, is devoid of all milky appearance and is perfectly transparent. By the people of the West Indies it is known as *agua coco*, or cocoanut water, and is very popular as a refreshing drink; at the railway stations and restaurants may be seen piles of the unripe nuts, which at a moment's notice can be broken open and made to yield a tumblerful of the fluid at a trifling cost. The cocoanut is a germ-proof receptacle, and, if care is taken in the removal of its fluid, the latter requires no sterilization at the time of its reception into the bacteriologist's tubes or flasks. Dr. Sternberg has been able to store it away almost indefinitely for future use, the fluid remaining perfectly transparent and ready for immediate use. Heating the fluid will cause in it a slight precipitate. He has employed this medium quite extensively during the past two years, although he has been cognizant of some of its properties since 1879, and has found it of great convenience. Certain micro-organisms multiply in it more rapidly than others in consequence of its slightly acid reaction when first obtained from the nut. This reaction makes it unsuitable for cultures of certain of the pathogenic bacteria, but, when desired, it is a simple matter to neutralize it. A detailed chemical analysis of the fluid is given in the paper.

THE FAITH CURE AND MANSLAUGHTER.

A very sad occurrence in connection with the faith cure is reported from Toronto. Mr. John Kent, a well-known citizen, had been the subject of diabetes for several years, but had been in a state of fair general health and in a condition to attend to his business. On the advice of his physician he had adopted a form of diet under the use of which the sugar in the urine was said to be diminishing in quantity and the patient to be gaining in health and strength. Not satisfied with the progress he was making, he put himself in the hands of the Christian scientists, who were both numerous and popular in Toronto. The usual process of faith cure was gone through with. He was told to eat what he pleased, did so, and died of diabetic coma. A coroner's inquest was held, which ended in a verdict of manslaughter against Mrs. Stewart, the so-called scientist, "in that he (Kent) came to his death through the gross ignorance of Mrs. Stewart, who undertook to cure him of his disease, in not advising him to continue the restricted diet prescribed by his former physician." The coroner, after summing up the evidence, charged directly against the accused. When cross-examined, Mrs. Stewart admitted that she knew very little of medical science. She was arrested and held in bail to stand her trial for manslaughter at the next session of the Court of Queen's Bench.

KEFIR.

Professor Uffelmann, of Vienna, has made an examination of that preparation of milk called kefir, which has recently been lauded by physicians of Berlin and Paris as well as Vienna for its power of assisting stomach digestion, strengthening the nervous system, and increasing the weight of the body. According to the *Medical Press and Circular*, he finds that the kefir ferment converts the milk into alcohol, carbonic acid, hemi-albumose, and peptone compounds. The casein is broken up into small particles in combination with the fat, forming a kind of emulsion. Uffelmann holds that the lactic acid converts the casein into very fine coagula, and relieves the gastric acid of a great part of its work. The carbonic acid increases peristalsis and the flow of the gastric juice. The peptones and alcohol make the combination better borne and cause it to contribute to nutritive accumulation and assimilation. These are the reasons, he thinks, for the growing repute of kefir as a means to the rapid increase of the weight of the body.

SPERMINE.

According to *Le Mercredi médical*, Dr. Pohl, of St. Petersburg, believes that certain crystals found in semen are, as stated by Schreider, the phosphate of an organic base, spermine, that is identical, according to Laderberg and Obel, with ethylenimine. Dr. Pohl has extracted spermine from the testicles of young rabbits, and finds experimentally that it decreases the action of the heart while it increases general energy and stimulates the nervous and genital systems. He believes that the action of castoreum and musk is due to the presence of spermine.

THE URINE OF OPIUM HABITUÉS.

Dr. J. B. Mattison, of the Brooklyn Home for Habitués, writes to us concerning a statement that he has met with in contemporary periodical medical literature, to the effect that the addition of tincture of chloride of iron to the urine of a subject of the opium habit will produce a blue tint showing the presence of morphine. Dr. Mattison declares that the statement is not true.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 16, 1890:

DISEASES.	Week ending Sept. 9.		Week ending Sept. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever..............	30	10	57	13
Scarlet fever..............	17	1	39	1
Cerebro-spinal meningitis.....	1	1	1	1
Measles..................	78	9	32	3
Diphtheria.................	43	14	47	19

The American Gynæcological Society.—The members in attendance at the Buffalo meeting were entertained on Thursday by the Buffalo Medical Club with an excursion to Niagara and a dinner on the return to Buffalo.

The Randall's Island Hospital.—Dr. James R. Goffe has been appointed visiting gynæcologist to the hospital.

The Jenkins Medical Association, of Yonkers, will hold its regular meeting at the house of Dr. N. A. Warren, on Thursday evening, the 25th inst. Dr. C. W. Packard, of New York, will read a paper on Surgical Insomnia.

The late Dr. Silas H. Douglas.—At a meeting of the Department of Medicine and Surgery of the University of Michigan, held on the 4th of September, 1890, the following minute was adopted, with direction that it be entered in the records of the faculty:

"Silas Hamilton Douglas, one of the founders of this department of the university and for twenty-eight years a member of this faculty, died in Ann Arbor, August 26, 1890, at the age of seventy-four years. He was one of a very few strong men of steady purpose, who opened a way for medical education in this State, and from the first determined that broader foundations should be laid for the support of medical learning. Elected as professor of chemistry in this university on August 5, 1846, he was soon active in those movements which obtained the adoption by the Board of Regents of a plan for the organization of a department of medicine, presented by Dr. Zina Pitcher and others, January 17, 1848. His interest in medicine was direct and personal; he had entered upon practice as a physician before he became a college teacher, and in the beginning of the medical school he held for a time the chair of materia medica in addition to that of chemistry. Dr. Douglas was one of the original members of this body who have served, each in turn for a considerable period, as the dean of the faculty. Of these but one remains with us, now our honored presiding officer, a witness of the growth of medical education, rising evenly and surely upon the foundations laid by these fathers. Early in the building of the foundations Professor Douglas set out to provide for the laboratory method of study, then nearly unknown in medical schools, yet a method which has become characteristic of the finest training of the time. When Dr. Douglas had labored in the university for ten years, on May 8, 1856, the Board of Regents made provision for the erection of a building under his charge to serve as a chemical laboratory. Of this it is stated in President Tappan's annual report of the following year that it was 'one of the most complete and efficient in our country.' To this and its development Professor Douglas gave the best years of his life. It was due to the indomitable courage and unyielding perseverance strongly knit in his sturdy nature that laboratories of science gained an early and vigorous growth in this institution. And it was through his interest in medical education that medical students received the best of laboratory opportunities. A stanch defender of the interests of the Department of Medicine and Surgery, he was confident of its future strength and service. To him and his early associates in medical education a great debt of gratitude is due. We remember his services with thanksgiving and write his name with honor.

"To his family and his relatives we desire to extend our sympathies, and we invoke for them the consolations of the religious faith which he sustained."

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 31 to September 13, 1890:*

De Witt, Theodore F., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month, to take effect September 15, 1890. S. O. 76, Headquarters Department of Texas, San Antonio, Texas, September 1, 1890.

Appointment.

Baxter, Jedediah H., Colonel and Chief Medical Purveyor. To be Surgeon-General, with the rank of brigadier-general, August 16, 1890, *vice* Moore, retired from active service. Headquarters of the Army, A. G. O., Washington, September 1, 1890.

By direction of the Acting Secretary of War, a board of medical officers, to consist of Vollum, Edward P., Colonel and Surgeon; Sternberg, George M., Major and Surgeon; Hartsuff, Albert, Major and Surgeon; Hopkins, William E., Captain and Assistant Surgeon, is constituted to meet in New York city on October 15, 1890, or as soon thereafter as practicable, for the examination of candidates for admission into the medical corps of the army. Par. 8, S. O. 213, A. G. O., Washington, D. C., September 11, 1890.

Corson, Joseph K., Major and Surgeon, is relieved from duty at Fort Sherman, Idaho, by direction of the Acting Secretary of War, and will report in person to the commanding officer, Washington Barracks, District of Columbia, for duty at that station. Par. 4, S. O. 212, A. G. O., September 10, 1890.

By direction of the Acting Secretary of War, the following changes in the stations and duties of officers of the medical department are ordered: Heizmann, Charles L., Major and Surgeon, is relieved from duty at San Antonio, Texas, and will report in person to the commanding officer at Fort Clark, Texas, for duty at that station, to relieve Moseley, Edward B., Captain and Assistant Surgeon, who, upon being relieved by Major Heizmann, will report in person to the commanding officer at San Antonio, Texas, for duty at that station. Par. 23, S. O. 211, A. G. O., Washington, D. C., September 9, 1890.

Carter, Edward C., Captain and Assistant Surgeon, is granted leave of absence for one month. Par. 2, S. O. 108, Headquarters Department of the Columbia, September 6, 1890.

Jarvis, Nathan S., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Verde, Arizona Territory, by direction of the Acting Secretary of War, and will report in person to the commanding officer, San Carlos, Arizona Territory, for duty at that station. Par. 2, S. O. 208, A. G. O., Washington, D. C., September 5, 1890.

Woodhull, A. A., Major and Surgeon, is granted leave of absence for one month, on surgeon's certificate of disability, with permission to go beyond the limits of the department. Par. 1, S. O. 122, Department of the Missouri, September 5, 1890.

Wood, Leonard, First Lieutenant and Assistant Surgeon. Leave of absence for one month, to take effect on or about October 20, 1890, is hereby granted, with permission to apply for an extension of one month. Par. 1, S. O. 74, Department of California, San Francisco, Cal., August 30, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending September 13, 1890:*

Wise, J. C., Surgeon. Detached from Torpedo Station and ordered to the U. S. Steamer Alliance.

Fitzsimons, Paul, Surgeon. Ordered to the Torpedo Station, Newport, R. I.

Bright, George A., Surgeon. Detached from the U. S. Steamer Constellation and ordered to Naval Academy.

Olcott, F. W., Assistant Surgeon. Promoted to be Passed Assistant Surgeon.

Wentworth, A. R., Passed Assistant Surgeon, requests to withdraw resignation. Granted.

Crawford, M. H., Passed Assistant Surgeon. Detached from the U. S Steamer Monongahela and granted two months leave of absence.

Keeney, James F., Assistant Surgeon. Detached from the U. S. Steamer Richmond and granted two months leave of absence.

Lowndes, Charles H. T., Assistant Surgeon. Detached from Naval Academy and ordered to the U. S. Steamer Richmond.

Woolverton, Theoron, Medical Director. Ordered to the U. S. Steamer Philadelphia. September 15, 1890.

Penrose, Thomas N., Medical Inspector. Detached from the U. S. Steamer Richmond.

Gardner, J. E., Passed Assistant Surgeon. Detached from the U. S. Fish-Commission Steamer Albatross.

Drake, N. H., Passed Assistant Surgeon. Detached from the U. S. Coast-Survey Steamer McArthur, and ordered to the U. S. Fish-Commission Steamer Albatross.

Berryhill, T. A., Passed Assistant Surgeon. Detached from the Hospital, Mare Island, California, and ordered to the U. S. Coast-Survey Steamer McArthur.

Heffinger, A. C., Passed Assistant Surgeon. Ordered before Retiring Board, October 1, 1890.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service from August 12 to September 6, 1890:*

Vansant, John, Surgeon. Granted leave of absence for thirty days, to take effect upon return of Assistant Surgeon J. C. Perry to duty. September 5, 1890.

Wyman, Walter, Surgeon. To proceed to Cape Charles Quarantine Station, on special duty. August 25, 1890.

Stoner, George W., Surgeon. Granted leave of absence for four days. August 19, 1890.

Carmichael, D. A., Passed Assistant Surgeon. Leave of absence extended fifteen days. August 26, 1890.

Ames, R. P. M., Passed Assistant Surgeon. To proceed to Memphis, Tenn., on temporary duty.

Devan, S. C., Passed Assistant Surgeon. Leave extended five days on account of sickness. August 12, 1890.

Williams, L. L., Passed Assistant Surgeon. Granted leave of absence for thirty days. September 5, 1890.

Goodwin, H. F., Assistant Surgeon. Granted leave of absence for thirty days. August 21, 1890.

Cobb, J. O., Assistant Surgeon. To proceed to Marine Hospital, Detroit, Mich., for duty. August 16, 1890.

Hussey, S. H., Assistant Surgeon. Granted leave of absence for thirty days. August 19, 1890.

Perry, J. C., Assistant Surgeon. Granted leave of absence for twenty days, to take effect when relieved. September 3, 1890.

Young, G. B., Assistant Surgeon. To rejoin his station at St. Louis, Mo., when relieved. September 3, 1890.

Appointment.

Rosenau, Milton J., Assistant Surgeon. Commissioned as an Assistant Surgeon by the President, August 25, 1890. Ordered to Chicago, Ill., for temporary duty. August 27, 1890.

Society Meetings for the Coming Week:

Monday, *September 22d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *September 23d:* New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of the County of Lewis (quarterly), N. Y.

Wednesday, *September 24th:* New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Auburn City, N. Y., Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *September 25th:* New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); New London, Conn., County Medical Society (Extra —New London); Pathological Society of Philadelphia.

Friday, *September 26th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

HÆMORRHAGE AFTER AMYGDALOTOMY.

Saratoga Springs, N. Y., *September 8, 1890.*

To the Editor of the New York Medical Journal:

Sir: I have read with much interest Dr. Jonathan Wright's article on Hæmorrhage after Amygdalotomy, in the *Journal* for August 30th, and would report two cases that have occurred in my practice. The first was in a boy, eleven years old. The hypertrophied right tonsil was removed with Mathieu's amygdalotome in March, 1882. The hæmorrhage was quite profuse, but was controlled with styptic applications and pressure on the cut surface, with ice externally and counter-pressure. The other case was that of a young lady, eighteen years old, weighing nearly two hundred pounds, and extremely nervous. I had attended her about ten years before in a fairly serious attack of scarlet fever, and at that time both tonsils were somewhat hypertrophied. I advised their removal as soon as she was well from the fever, but nothing was done till the winter of 1889, when I used Donaldson's treatment (by small incisions and the insertion of a crystal of chromic acid into each cut), but with little or no effect. The removal of the tonsils was declined at that time. Both tonsils were now very large, the left one pushing the uvula to one side. On June 29, 1889, I amputated the right tonsil, having injected a ten-per-cent. solution of cocaine into it. Rest and a tanno-gallic-acid gargle were used after the operation; the bleeding was very slight, and there was little or no pain. On July 14th I removed the left tonsil in the same manner. It was hard and leathery. There was no pain in its removal, but there was a little more bleeding than at the other operation. I left the patient comfortable an hour later, but within another hour I was called, and found that she had had profuse hæmorrhage; she was pale, had no pulse at the wrist, and had fainted two or three times. The bleeding was controlled by applying sponges saturated with solution of persulphate of iron to the wound and ice externally, firm pressure being made and kept up for an hour, and stimulants, ergot, gallic acid, and opium given internally. She made a good recovery, being of course under treatment for some time for the resulting anæmia. The instrument used was the same as the one employed on the boy.

W. H. Hall, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of May 14, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Laparo-colotomy for Stricture of the Rectum.—The President read a paper with this title. (See page 310.)

Calculus of the Kidney; Removal of the Organ.—Dr. A. G. Gerster presented a woman, aged fifty-six, who, six years before, had experienced some marked pain in the hypogastric region, pain on micturition, and rigors. The urine was turbid. Alternating with periods of abeyance, this condition had continued four years. Two years ago intense pain had initiated the appearance of a tumor in the left loin. Fourteen months ago abscess was diagnosticated, and, on incision, a quantity of pus was evacuated. After this the general condition had somewhat improved. On her admission into Mount Sinai Hospital a discharging sinus was found in the left lumbar region, leading down to a slightly movable tumor, readily made out on bimanual palpation. The tortuosity of the sinus had prevented the probe entering more than two inches. At this time the urine was about normal as to quantity, but contained much pus, albumin, and blood, but no casts. There seemed no reasonable doubt that a diseased kidney would be found at the bottom of the sinus, and operative interference was arranged for. The right kidney being first made out by palpation, the left was then exposed by a slightly oblique, nearly transverse incision, four inches in length, carried through the loin. The sinus was seen leading into the pelvis of the organ, which was much shrunken and peculiarly lobulated. After it was peeled out of its fibrous capsule, an elastic ligature was thrown around the vessels and ureter, just in front of the hilum. When the kidney was cut away, a small stone was found to have been caught in the ligature, but this came away on gentle traction. The pelvis of the kidney contained a number of uric-acid stones and about two ounces of thick pus. The secreting tissue of the organ was found replaced by cicatricial masses. During the attempt at liberating the kidney a rent was accidentally made in a protruding fold of the peritonæum. This was closed by a few catgut sutures. The wound was then packed with iodoform gauze and the patient put to bed in a slightly collapsed condition. On the day following, the temperature was 99° F., the urine scanty, but the general condition good. The next day twenty-four ounces and a half of urine were passed in the twenty-four hours. The urine at first contained considerable pus, casts, and renal epithelium, but these gradually disappeared. The ligature came away in about three weeks, and the wound was then closed by secondary suture. In three weeks more the patient was discharged cured, with a slight trace of pus in the urine. The muscles had reunited without any difficulty, and the patient made no complaint of any disability in moving her trunk. Her general condition had very much improved since the operation, though the speaker did not believe the other kidney was actually sound. The specimen he presented showed how shrunken the organ was.

Dr. L. A. Stimson asked if the descending colon had been recognized.

Dr. Gerster said it had not come into view. The intestine which had protruded was small intestine. He must have come into very close proximity to the colon, but after the accident he had not continued to work in the fat surrounding the cicatricial masses.

The President asked whether the incision would be applicable to a large kidney.

Dr. Gerster believed that it gave more space than any single incision he had ever tried. The secondary suture had been a very simple affair, and had aided the closure of the very large wound through the muscle.

Dr. Stimson thought it showed the advantage of doing the operation at separate sittings.

The President asked if it did not render the secondary operation difficult from the fact of the cicatricial tissue clinging to the wound.

Dr. Gerster replied that the easiest operations he had done had been secondary, and the most difficult had been the primary operations.

The President said his experience had been just the reverse.

Dr. Gerster said that, in attempting to follow the line of the sinus, it was difficult, but if the incision was made in any cicatricial tissue, it could be carried through perfectly normal tissue, and the kidney recognized as easily as in the primary operation. He believed, however, that it would not do to pass a hasty judgment on the respective merits of these two methods. The primary operation had the great advantage that, after splitting the fatty capsule and enucleating the kidney with its own primary capsule, the treatment of the pedicle became much more easy. It did not leave behind a mass of pedicle which compelled the adoption of open treatment. The wound might be closed, and only a drainage-tube left in.

Abscess of the Liver.—Dr. J. A. Wyeth presented a patient who had come to him some four months before after having been in one of the city hospitals for a considerable time for a tumor in the region of the liver. Examination by the speaker resulted in a diagnosis of abscess of the liver. Incision over the most prominent part of the tumor resulted in the evacuation of a large quantity of pus, with liver tissue. The cavity was then scraped out. The man recovered rapidly and was now entirely well. A small tube was still in the wound, through which there escaped about ten minims of a sero-purulent fluid daily. There was no history which had pointed to the causation in this case. The man had always lived in this climate.

The President said that these cases were unusual in this climate. He had operated in quite a number, and during one term of service he had had three cases of liver abscess in the wards of the Presbyterian Hospital at one time, and two of these were of unusual interest. One patient was brought into the hospital suffering from suppurative peritonitis due to rupture of an abscess into the abdominal cavity; a physical examination revealed hepatic dullness high up, and an incision between two ribs permitted the finger to pass through the adherent pleura and into the substance of the liver itself. Guided by the finger, a very large curved trocar was passed into the cavity of an abscess that communicated with the peritonæum. The speaker then opened the peritonæum in both inguinal regions, passed a drainage-tube through from one to the other, and irrigated the cavity of the peritonæum through a tube introduced into the opening made in the abscess and intercostal space.

One of the other cases was still more remarkable. An old woman was in the medical wards of the hospital, and a very thorough examination and extended observation had warranted the physician in charge in expressing the opinion that she was the subject of liver abscess. She was jaundiced, her liver projected several inches below the free border of the ribs, and she had very severe and irregular rigors. The speaker made an incision about two inches long, and parallel with the border of the ribs, on the right side. When the peritonæum was cleanly exposed it was evident that there were no adhesions between the convex surface of the liver and the abdominal wall, and the organ could be seen moving up and down, as influenced by respiration. The wound was packed with gauze, and, five days after, the liver was needled in various directions through the bottom of the wound without detecting pus. After scraping the surface of the wound and making it aseptic, he opened the abdominal cavity, extending the incision across the median line a distance of five or six inches. He then satisfactorily demonstrated to the gentlemen present that there was no abscess. Nearly the whole of the free convex surface of the liver was critically examined, and then the organ was rotated on its transverse axis, so as to expose a large portion of its lower surface; it looked like a liver in the early stage of cirrhosis; its surface was finely tuberculated and rosy red in color; the ligamentum suspensorium hepatis was very much enlarged and œdematous—so much so that at first it was supposed to be a knuckle of intestine. The whole operation was done under the strictest antiseptic precautions, and the abdominal wound was carefully closed. He was very much surprised at the very remarkable result that followed this apparently harsh procedure. The patient had no more chills, recovered from the effects of the operation without accident, and left the hospital in a few weeks.

Referring to the presence of the drainage-tube in Dr. Wyeth's patient, the president would warn against the possible danger of the tube's being drawn into the sinus or cavity by inspiration. He had recorded one case in which he had operated for the evacuation of a large quantity of bile, due to extensive rupture of the liver, and so encapsulated that the peritonæum was not invaded. Three days before operating he had removed between sixty and seventy ounces of apparently pure bile by the needle, and had given prompt relief, but it was only of short duration, and a free incision had given exit to as much more. A large drain, eight or nine inches long, was introduced, and bile had continued to flow through it for several months. One afternoon he was informed that the tube was missing, and he made an ineffectual attempt to find it. He then suspected that the patient had taken it out and made away with it, but this was stoutly denied. When informed that it would be necessary to perform a possible serious operation to find it, the patient still denied that he had interfered with it. He was etherized, and a long and tedious effort was made with lithotrites and variously shaped snares. The sinus was a tortuous one, and appeared to lead into a cavity situated behind the middle of the sternum. On subsequent occasions attempts were made, but the tube was never found. The discharge gradually diminished, but never entirely ceased. The patient gained in health and strength sufficiently to resume his occupation—that of a brickmaker.

Dr. Gerster thought that in the case in which so much manipulation of the liver had been done the result might have been the dislodgment of some obstruction in the gall-bladder.

Operative Procedures in the Bone Diseases of Childhood was the title of a paper read by Dr. V. P. Gibney. (See page 181.)

Dr. Stimson said the statements as to the superiority of arthrectomy in the treatment of diseases of the knee, if by that was meant extirpation of the capsule alone, were not borne out by his experience. Extirpation of the capsule alone, in his experience, had been followed by return of the disease and recourse to excision in every case. He was surprised to hear that excision of the knee joint had not given Dr. Gibney good results. The speaker was under the impression that it was the general experience that this operation did not contain many elements of danger to the patient's life, and that it was generally followed by permanent, satisfactory, and complete recovery. Of course, he did not mean recovery in every case, but as an operation for tubercular disease it was the one which, in his experience, had given the best results.

Dr. Gerster thought that all cases could not be judged by one standard. A distinction must be made between tuberculous joints in children and those in adults, and different principles must obtain in practice. When it was remembered that a very large number of the tuberculous knee joints occurred among the poorer classes, with whom prolonged treatment was impossible, there was no alternative but to amputate the limb or excise the joint. Undoubtedly in children the removal of the capsular ligament and semilunar cartilages yielded excellent results at certain hands. He had read many reports to this effect by authors of note, and believed that for children the method certainly deserved trial before excision.

Dr. Wyeth said that his ideas on this subject led him rather decidedly into the operative field for the treatment of knee-joint troubles, regardless of the age of the child. In the five or six cases operated on by him this winter the patients had all been from twelve to fifteen years of age. He thought it rare to meet with a child under five years with a tuberculous osteoarthritis at the knee. He had never given much consideration to the question of lack of development in the bones, because he believed that persistent meddling with the joint for from one to five years, which might anyway end in ankylosis or something more serious, was fraught with such danger that he was inclined to discourage delay and deal promptly with these joints by excision. He could not recall a single instance in his experience of death resulting from excision of the knee joint, except, of course, in some traumatic cases. He thought the operation was an exceedingly safe one. He thought it imperative that permanent drainage should be established. This was especially important in hip-joint disease where a clean arthrectomy, with excision, was not made.

Dr. F. Kammerer thought the question of the merits of arthrectomy or excision was still *sub judice*. He had resected a great many times, and had generally found the focus of the trouble in the bone itself. He considered the conservative treatment suggested by Dr. Gibney as perfectly in place. He had on the Continent witnessed many resections which ought never to have been done. The moment crepitus was felt it was the signal for resection, decapitation, or subtrochanteric resection when conservative measures would undoubtedly have given much better results.

Dr. Gibney said that he felt with Dr. Stimson that excision of the knee for adults was the thing to do, but the line had to be drawn between children and older children and adults. By arthrectomy he meant complete eradication of the capsule with the cartilage and entire removal of any diseased foci. He believed that it was the custom to wait too long in the case of adults. They were told to put the joints at rest. The joints gradually got unstable, abscess appeared, and the patient was then allowed to go around waiting for the abscess to mature. These cases were much better taken hold of early, the disease excised, and the patients thus insured good sound limbs upon which they could earn a living.

Perforating Wound of the Heart; Survival for Eighteen Hours.—Dr. Stimson showed a heart which had been taken from an Italian, thirty-two years of age, who had been stabbed in seven places in the chest, abdomen, and arms. He had been brought to the Chambers Street Hospital in a state of profound shock, his condition being such that no surgical interference was deemed justifiable, and he died eighteen hours later. The knife had penetrated the wall of the chest an inch to the right of the left nipple, and perforated the right ventricle, making a wound one quarter of an inch long on its anterior surface, one third of an inch below the anterior cusp of the semilunar valve of the pulmonary artery, and just puncturing the opposite wall an inch and a half from the posterior interventricular septum. The valves and the chordæ tendineæ were uninjured. He had also a wound three quarters of an inch long situated two inches and a half below and two inches to the left of the umbilicus, which penetrated the abdominal cavity, but had not wounded any of the viscera.

Meeting of May 28, 1890.

The President, Dr. C. K. Briddon, in the Chair.

Injury from the Use of Esmarch's Bandage.—Dr. L. A. Stimson presented a young man who had come under treatment last March for a non-suppurative tubercular affection of the right wrist, for which excision of the wrist was resorted to. The Esmarch bandage was applied in the usual manner, with the rubber tourniquet about the middle of the arm. The wound had healed without incident, but the patient was now, two months since the operation, unable to move any of the muscles of the forearm or hand. The galvanic current showed some reaction, and the speaker thought he was able to provoke contraction of some of the muscles by application of the current to the brachial plexus. The evidence was, however, not very positive. The patient had been examined by Dr. Starr, who thought the paralysis was due either to contusion of the nerves of the arm by the cord applied during the operation, or else to the temporary ischæmia of the muscles produced at the same time. Innervation through the three main trunks was completely lost, the reaction of degeneration was very marked, and the change seemed to be especially marked in the interossei muscles. According to Dr. Starr, the prognosis was good. The case seemed of interest because of the very general use of the means which appeared in this instance responsible for the trouble.

Dr. C. McBurney asked what form of constricting band had been used.

Dr. Stimson replied that he thought it was a large rubber tube.

Dr. McBurney did not think this so good as the broad band, because of its enormously increased contusing force. He had frequently seen the skin rise between the turns of rubber band. He thought this form of band far more likely to cause mischief both to the skin and to the parts beneath. He would suggest that possibly this might have acted as a cause of the trouble in this case. The difficulty might be avoided by using a very broad band. A three-inch band wound a good many times about the arm would give very little evidence upon the skin of its application.

The President said he had seen two cases in which trouble had arisen from this bandaging, and it had followed the use of the narrow band, either as a tube or in the solid form.

Dr. Stimson said that this was not a cord, but a hollow tube which flattened out during its application. He doubted if the breadth of the band was an important feature, and thought the danger lay rather in unduly multiplying the number of superimposed turns of the bandage about the limbs.

Dr. Gerster reported four cases in which trouble had followed the use of the broad band. He did not wish to say that the narrow band was harmless. The difficulty did not depend upon the band, but upon the traction exercised and the amount of soft tissue involved. It was a general failing to use more force and compression than was necessary. It was his custom, when dealing with the upper extremities, to have an assistant hold the radial pulse and to allow one more turn of the bandage after the pulse was reported gone.

Irreducible Intracoracoid Luxation of the Head of the Humerus; Operation.—Dr. Stimson presented a man, fifty-three years of age, who last April had fallen into the water from a row-boat in which he was standing. He had swum a few feet to a neighboring tug, into which he was lifted by his extended arms. He immediately felt severe pain in the shoulders and arms, and was brought to the Chambers Street Hospital. It was there found that he had a dislocation of each shoulder. On the right side it was well marked, the head of the humerus lying below and a little to the inner side of the coracoid process. On the left side the head of the humerus lay farther inward, the case being one of well-marked intracoracoid dislocation. The dislocation on the right side was reduced without much difficulty under ether. All efforts to reduce the one on the left side failed. The condition of things was explained to the patient, and an operation was performed on the following day. On exposing the joint cavity by an anterior incision, the condition of things at once became clear. The head of the humerus lay well to the inner side, and its neck was crossed on its outer side and above by the untorn tendon of the subscapularis muscle. After division of this tendon the head of the bone was easily returned to its place. The patient had made an uneventful recovery so far as the wound was concerned. There was now a decided droop of the head of the right humerus, with paralysis of the deltoid. On the left side the arm was quite powerless, and considerably swollen. The speaker did not think that this swelling had arisen from any interference with the vein, but thought that it was probably due to interference with the lymphatic return or to some damage of the nerve supply of the limb.

Fracture of the Patella; Treatment by Arthrotomy and the Use of Silk Suture.—The third case presented by Dr. Stimson was one of fracture of the patella. The speaker had expressed his opinion that the open operation, with suture of the fragments, was only to be done in exceptional cases, and this was a case of that type. He presented the case to call attention to certain modifications in the method. The patient, a man, forty-six years of age, had fallen from a considerable height and had fractured his right patella and also both bones of his leg, and had sustained other injuries. The fracture of the patella was slightly comminuted. There was a large and deep bruise of the soft parts of the front of the knee, which made it probable that sloughing would ensue, and this, in the speaker's opinion, contra-indicated the employment of his usual method. He had therefore done the open operation under cocaine. He had made a vertical incision over the patella, exposing the seat of the fracture. It was of a variety which he had never before encountered. It was oblique from below upward and backward, and the lower fragment was chipped at its edge. Along the line of fracture two pieces were loose and were removed. Instead of suturing the bone, he had applied a mediate suture of it through the tendon of the quadriceps and the ligamentum patellæ, as in the subcutaneous method. The external wound was then closed, and the patient put to bed with the limb in plaster of Paris. This dressing was left on seven days. After the second dressing the splints were kept on four weeks. The patient now had forty-five degrees of flexion. This modification of mediate suture of silk, passed through the tendon of the quadriceps and the ligamentum patellæ, removed some of the objections to the metallic suture. It was easy of application, and, so far as could be judged by a single application, would yield an equally good result.

Dr. McBurney thought the operation was a very admirable application of a very good principle. Many of his hearers could recall cases of very acute suppuration following the introduction of a single wire.

Two Cases of Extirpation of the Penis for Cancer.—Dr. F. Kammerer presented two patients upon whom he had performed extirpation of the penis. The organ had seemed so far involved that amputation was not deemed advisable. This method, though practiced for the first time more than fifty years ago, was not of frequent application. The author thought, however, that it gave the best guarantee of radical removal of all diseased parts, and had the advantage of removing the external orifice of the urethra into the perinæum. Both cases were of far-advanced infiltration of the corpora cavernosa, with secondary infiltration of the inguinal glands. The operation was begun by an elliptical incision at the root of the penis; from its lower point the incision was continued through the scrotum and carried down to the corpus spongiosum of the urethra. The testicles were held backward and the ischial and pubic veins of the corpora cavernosa were exposed by dissection. This was continued over the upper surface of the penis toward the ramus of the pubes, separating the suspensory ligament and bringing the dorsal veins into view. When the penis was drawn down and away from the arcus pubis the vessels were so much on the stretch that it proved difficult to free them from the tissue in which they were imbedded to a sufficient extent to allow of the passage of a ligature. The operator had, therefore, resorted in both cases to the expedient of cutting through the spongy portion of the urethra immediately before the bulbous and separating it from the corpora cavernosa. The index finger of the left hand was then passed from below into the angle formed by the corpora cavernosa, when no difficulty was found in ligating the vessels. He now cut away the corpora from the ischial veins, which practically ended the operation. The urethra was fastened in the perinæum, the scrotum united by sutures. The glands were removed about ten days later, which seemed to the operator a better plan than that of removing them at the time of the first operation, thus avoiding infection of the inguinal wound from an ulcerating cancer and allowing the glandular infiltration in the groin time to subside if any of it was due to absorption from the ulcerated surface of the cancer.

Pancreatic Cyst.—Dr. Kammerer presented a patient upon whom he had operated for pancreatic cyst. Last January the patient, while pulling a truck, experienced sudden pain in the region of the stomach and grew faint. He vomited soon after. During the following days pain and vomiting continued. From that time the patient had been the subject of paroxysms of pain, chiefly during and after meals, but also at other intervals, in the epigastric region. He first noticed a swelling about three weeks after the accident. The paroxysms had become much less intense until about six weeks ago, when the tumor began to increase in size rapidly. About four weeks ago a round point, afterward becoming of about the size of a man's head, appeared, occupying the epigastric and left hypochondriac region; distinct fluctuation could be elicited, and puncture drew out a yellowish fluid, alkaline in reaction, containing considerable albumin, but no ferments, uric acid, or hooklets. The stomach was found on the upper and the colon on the lower border of this tumor, which was now movable and showed marked transmitted pulsation. At the operation the peritoneal cavity was opened over the most prominent part of the tumor. It was found that the cyst had, as had been diagnosticated, developed in the bursa omentalis, having on its anterior surface the gastro-colic ligament firmly adherent to the cyst wall. The transverse colon crossed the abdominal incision (from the ensiform cartilage to the umbilicus) a little below its middle, leaving a space of only about two inches between the stomach and colon for an incision of the cyst. The lower part of the abdominal incision was closed far enough to cover the colon. The adherent gastro-colic ligament was sewed to the parietal peritonæum at the abdominal incision. Ten days afterward the cyst was incised with the galvano-cautery. There was considerable hæmorrhage from the vessels in the gastro-colic ligament. About two quarts and a half of the before-mentioned fluid were evacuated. The smallness of the incision did not admit of an ocular inspection of the cavity. A good-sized drainage-tube was introduced. The walls of the cyst continued to secrete copiously during the first week, but during the second week the cavity shrank rapidly, and now only a small sinus led into the abdomen for about two or three inches. The location of the tumor, its topographical relation to the stomach and colon, the history of traumatism, the rapid growth, and the colicky pains left one in doubt as to the nature of the cyst and as to whether the absence of some or all of the components of pancreatic fluid in the contents of the tumor proved anything in favor of or against the diagnosis of cyst of the pancreas.

Cancer of the Rectum; Operation; no Recurrence after Five Years.—Dr. Gerster showed a patient upon whom he had operated in November, 1884, for cancer of the rectum. At this time about five inches and a half of the rectum were removed. A secondary operation was performed for the purpose of insuring a practicable sphincter. There had been no recurrence of the disease for five years. The patient had married and both his children were born with marked anal stenosis.

Dr. Kammerer said it had been his experience that cancers of the rectum gave a better prognosis than cancers elsewhere.

An Essay upon the Classification of the various Forms of Appendicitis and Perityphlitic Abscess, with Practical Conclusions.—This was the title of a paper by Dr. A. G. Gerster. (See page 6.)

The discussion of this paper was postponed until next October.

Recurrent Appendicitis.—Dr. McBurney narrated the following history: J. K. C., aged thirty-nine years. Family history entirely negative. The patient, with the exception of being subject to dyspepsia and having had occasional attacks of colic when a small boy, had always enjoyed good health previous to his first attack. He had had six attacks in all, occurring as follows: March 2, 1889, April 13, June 15, September 13, November 2, and March 26, 1890. In each of these attacks, with the exception of the second, in which the pain was located in the left iliac fossa, the pain began along a line a little above the umbilicus and settled more or less quickly in the right iliac region. The point of most acute pain had been in each case, with the exception mentioned, two inches from the right anterior superior spine toward the umbilicus. All the attacks had been considered intestinal obstruction, and all had been treated with morphine and enemata. After the last attack some soreness had remained in the right iliac region for a long time. The bowels were kept regular with a laxative mixture. On his admission to the hospital, May 17, 1890, the patient seemed to be fairly nourished. There was no prostration. Pressure at the point named caused pain. Pressure elsewhere on the abdomen caused some discomfort, but there was nothing definite except at that particular point. On deep pressure the appendix could be readily felt. It was somewhat thickened and movable and extended from the point named downward and inward along the internal border of the rectus. An operation was performed on May 20th. The usual incisions were made. The appendix was found to be an inch and a half long, lying posteriorly and pointing down and to the right. There were no adhesions among the intestines. The appendix itself had a mesentery and was bound firmly to the gut by adhesions. It was hard and thickened by chronic inflammation. Heavy catgut suture was applied to the base of the appendix, which was then cut through and carefully separated from the mesentery and adhesions and removed. On account of a few drops of yellowish fluid which escaped at the base of the appendix, this part of the wound was packed with iodoform gauze. A drainage-tube was also inserted at this point. There was no irrigating of the abdominal cavity. The upper part of the wound was then sutured with heavy silk passed through peritonæum, muscle, and skin, superficial skin sutures and finally an iodoform dressing being used. The dressing was removed for the first time on May 25th, five days after the operation. The wound was clean, there was no pus, and the packing was removed. From this time on the patient had made an uninterrupted recovery.

Acute Appendicitis.—Dr. McBurney also related the following: T. H., aged twenty-three years. Family and personal history negative. The patient had never had a previous attack. On March 25th, about 8 p. m., he first felt a pain in his right inguinal region, like a stitch in his side, as he expressed it. By the end of twenty minutes the pain had become so intense that he nearly fainted. This pain kept up all night without intermission, except that, about 2 a. m., he experienced some slight relief for a short time, but did not sleep. A physician had been called in within half an hour after the attack began, and nine hypodermics were given during the night—about a grain and a half of morphine in all. No great relief was afforded; the pain was so severe that the patient was said to have been semi-delirious in consequence. The bowels were constipated during the attack. The patient was admitted to the hospital on March 26th, at 10 p. m. At that time there was severe pain in the right inguinal region. There was a point of tenderness two inches to the inner side of the anterior superior spine of the ilium on the right side. This point was quite circumscribed, and a slight tumefaction was felt on deep pressure. There was some tympanites. An operation was performed at 11 p. m. The intestines were not adherent; the appendix pointed upward, slightly backward, and to the right. It was stiff, but was not perforated. There were a few old adhesions about it. The adhesions and the mesentery of the appendix were ligated with catgut and divided. A few oozing points were touched with the Paquelin cautery, and the appendix was ligated at its base, cut off, and removed. It was found to be filled with a mass of fæcal concretions, and there was a slight catarrhal condition of its mucous membrane. There was no irrigation of the abdominal cavity and no drainage, but the wound was completely closed. The dressings were of iodoform and bichloride of mercury. The patient had made a progressive recovery and was discharged, April 22d, cured.

Cystoscopy.—Dr. Willy Meyer showed a specimen of a tumor of the bladder which had been diagnosticated by means of the cystoscope. The patient was a man, forty-four years of age, who had presented the ordinary characteristic symptoms. The growth was removed by suprapubic cystotomy.

Cancer of the Pharynx and Œsophagus.—Dr. Kammerer exhibited a specimen of cancer of the pharynx and œsophagus which was of interest from a diagnostic point of view. The disease was of nine months' standing. Four months before, the diagnosis of cancer of the posterior wall of the larynx had been made by a competent laryngologist. Of late the patient had been able to swallow liquids only. There were never any symptoms of dyspnœa. Externally a distinct thickening, corresponding to the upper part of the œsophagus, could be plainly felt behind the larynx, but it was deemed probable that the œsophagus might be reached below the tumor from the neck by œsophagotomy. This attempt failed, and gastrotomy was performed as a last resort. The patient died from exhaustion two days later. The post-mortem showed that the tumor occupied about six inches of the pharynx and œsophagus, although so great an extent of the tumor could hardly have been assumed. The larynx was intact.

Portable Suture Reels.—The President showed a glass apparatus constructed with a view to the convenient and safe carrying of sterilized sutures of gut or silk. He thought the arrangement the best he had seen, and had demonstrated that it would stand rough handling without injury to itself or its contents.

Impervious Penile Urethra complicated with Impacted Calculi in the Membranous Urethra and in the Bladder.—The President reported the following case: D. McC., aged forty-nine, entered the Presbyterian Hospital on January 14, 1890, with the following history: For four years he had not been able to pass any urine through the urethra. It had all come through several sinuses in the right side of the scrotum. There was a history of gonorrhœa in early life. Examination of the urethra revealed the presence of several strictures, varying in size from that of a No. 2 to that of a filiform bougie. The urethra became impervious at five inches from the meatus. In the right side of the scrotum there were found several sinuses, close together, from which urine constantly dribbled. There was considerable excoriation in this region, with marked induration of the tissues of the right side of the scrotum. The urine was alkaline and contained five per cent. of albumin, with pus and phosphates. The general nutrition of the patient was so impaired that he was put on tonic treatment previous to an operation. On February 17th ether was administered. A probe was passed into the opening in the side of the scrotum with the hope that the urethra might be entered, but the course was so serpentine that the canal was not found. This tortuous scrotal sinus was divided, and the incision was then continued into the median line posteriorly and carefully deepened, for there was no guide. At this stage in the operation the granulation tissue was thoroughly scraped away. This revealed an opening in the apex of the wound leading toward the penile urethra. It admitted only a filiform bougie, and for only an inch. Further section in the median line cut through the cicatricial tissue, and after more diligent search the opening into the urethra was found, not in the median line, but well over to the ramus of the ischium on the right side. A filiform bougie was then passed through the penile urethra and was then armed with a fine silk thread to which was attached a lozenge-shaped blade with blunt corners at the obtuse angles. This was drawn through, dividing the structures so that a No. 30 sound could be passed easily. On exploration, the proximal end of the urethra was found dilated into a cavity containing a number of soft calculi and a considerable quantity of sabulous matter. This cavity was distinct from the prostatic portion of the urethra and bladder. In the bladder there were found three calculi, varying in size from that of a split pea to an inch in length by half an inch in diameter; these were removed by dilating the prostatic portion of the urethra. The subsequent treatment of the case consisted of frequent irrigation of the bladder and the passage of a sound every four days. The recovery was uneventful. The urine became normal, the patient gained rapidly in flesh and strength, the wound healed kindly, and he left the hospital, cured, on April 16th.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Fourteenth Annual Meeting, held at Richfield Springs, September 2, 3, and 4, 1890.

The President, Dr. Prince A. Morrow, of New York, in the Chair.

The President's Address.—The address dealt first with the present position of dermatology. Those engaged in this specialty had abundant cause for congratulation. Only a few years ago dermatology had little standing in this country. Previous to 1876 only twelve schools gave special instruction in this department. To-day dermatology was recognized in the teaching faculty in eighty-six schools, and perhaps more. He asked, however, whether this showed a healthy growth or merely a mushroom growth. There was reason to believe that there were many and grave defects in the existing system of instruction. It was not the amount but the quality and efficiency of the instruction that constituted the criterion of its value. For the successful teaching of dermatology two conditions were essential, namely, capacity in the instructor and abundance and variety of clinical material. It must be admitted that the capacity of some of the teachers in our medical schools was doubtful, while the clinical material in the majority of cases was inadequate. Even in large cities the clinical material was too much dispersed—in New York, for instance. For a thorough study of cases and of the results of treatment a hospital was necessary. In medical schools cases of skin disease should be presented only to advanced students, not to those taking the first or second year's course. The study of these diseases should be obligatory, which it was not now in any school in the country, so far as he knew. If clinical material was not abundant, and the study of dermatology was made obligatory, he thought it a question whether it would not be better to leave instruction in this department to post-graduate schools. It was a question also whether this post-graduate instruction could not be better provided for in organized institutions than in independent organizations.

In the matter of nomenclature, new names were being introduced into dermatology which were not destined to retain a permanent position, and, while an essentially new disease required a new name, he would protest against the present neological craze. He suggested the propriety of introducing some subject for special discussion at the annual meetings.

Observations on Prurigo, Clinical and Pathological.—Dr. R. W. Taylor, of New York, read the paper. At the first meeting of the society Dr. Campbell had read a paper on prurigo, and it appeared that only six cases had then occurred in the experience of those present. New interest had been excited since the reading of a paper on this subject last year, in which the author gave accounts of twelve cases seen by him in Chicago. The combined experience of all present at that discussion had included only eighteen cases. Dr. Taylor thought the disease more common in America than these statements would lead one to suppose. It was probable many cases escaped recognition and were classed as eczema, scabies, phtheiriasis, ecthyma, impetigo, and even ichthyosis. This was due in part to the fact that there were no good plates representing the clinical aspects of the disease accessible to the general profession. He undertook to remedy this deficiency to some extent by giving photographs and a full description of a recent typical case, and also alluded to the casual concomitants and modifying conditions during the course of the disease. The patient was a healthy girl, aged nine, of healthy American parents, in good circumstances, and with healthful surroundings. When four years old she began to scratch, and little red pimples, which appeared on the face, forearms, and legs, were attributed by the parents to mosquito bites. The disease had recurred every year up to the child's visit to the hospital, in January of this year. The expression of the face was then rather dull, the color being the typical white, somewhat ashy hue, of prurigo. Over the forehead, the temporal region, and the cheek there was a copious eruption of small conical papules, some whiter than the skin, others of rather a yellowish hue, and others capped with a blood crust, the result of scratching. They were not developed on the site of sebaceous glands. There was no marked dryness or want of vitality in the hair, as he had seen in severe cases; there was slight mealy desquamation in the scalp. As pointed out by Hebra, the eruption did not appear on the neck and nucha, but began to develop where the shoulder merged into the neck. The principal eruption was on the back of the hand and forearm and on the outer and anterior surface of the legs, where the papules were as large as a split pea. There were some on the arms, the buttocks, and the thighs. They were scattered without semblance of grouping, conical in shape, and firm; some of the color of the skin, others of a reddish hue, others capped with a blood crust. Variations in the appearance of the disease were observed under certain complications, and shown in photographs. Dr. Taylor read the report of Dr. Ira Van Giesen, who had studied sections under the microscope.

A Clinical Study of Pruritus Hiemalis.—Dr. W. T. Corlett, of Cleveland, read the paper. The affection had first been pointed out as a disease *sui generis* by Dr. Duhring, and at about the same time by Jonathan Hutchinson, since when it had been little written about. It was seldom seen save in certain localities—in the Southern States only during cold waves. On the southern border of Lake Erie it was well defined and not uncommon. He related three cases illustrating different points of interest connected with the disease. In one it had recurred during the cold season for over twenty-two years; in another the eruption had the appearance at times of urticarious patches, two or three inches in diameter, confined to the extremities, subsiding in about ten minutes, leaving for a while a dark-yellowish spot. The third case was in a negro, showing that that race was not exempt. The writer's experience went to show that the state of the general health had no appreciable effect on the pruritus; that the local irritation of the clothing, although capable of aggravating the malady, was not of itself able to produce it; meteorological conditions appeared to be the main ætiological factor. These were most potent with a low temperature, low humidity, and a wind blowing from the northwest. These influences were favorable to evaporation, and the low temperature reduced the glandular activity of the skin to the minimum. As a consequence, the skin became harsh, the peripheral nerves were irritated, and the disease was induced. He did not think the primary irritation could be central, else in time it would give rise to a less fleeting disease. It was not infrequently associated with other neuroses of the skin, these neuroses, however, only showing the peculiar susceptibility of the nervous system. The treatment was largely palliative. Internal medication seemed to have little effect. Locally he had used ichthyol and resorcin with advantage. A warm and moist climate seemed to have the best effect.

Pruritus.—Dr. E. B. Bronson, of New York, in an argumentative paper on this subject, gave the following conclusions: 1. That there was a sense of contact independent of the sense of pselaphesis. 2. That this sense of contact was the sense disturbed in pruritus. 3. That it concerned primarily simple cutaneous nerves or nerve-endings situated superficially and probably in the epidermis. 4. That the disturbance in pruritus was of the nature of a dysæsthesia due to accumulated or obstructed nerve excitation with imperfect conduction of the generated force into correlated forms of nerve energy. 5. That scratching relieved itching by directing the excitation into freer channels of sensation, sometimes, especially when severe, substituting either painful or voluptuous sensations for the pruritus. 6. That the voluptuous sensations which might attend pruritus were a manifestation of a generalized aphrodisiac sense, representing a phase of common sensation that had its source in the sense of contact.

Cutaneous Tuberculosis.—Dr. J. T. Bowen, of Boston, read a paper containing the histories of a number of cases of cutaneous tuberculosis, together with histological studies, and expressed the view, also entertained by Dr. White, through whose courtesy some of the cases had been seen, that several affections of the skin not yet recognized as inoculable would be proved to be so, and their relation to tuberculosis be demonstrated.

The Treatment of Dermatitis Herpetiformis.—Dr. L. A. Duhring, of Philadelphia, said that the several papers published by him on dermatitis herpetiformis during the past five years had contained no reference to treatment. Having now reported ten or twelve cases, it seemed appropriate to speak of the treatment of this exceedingly rebellious disease. Each group of cases based on the ætiological factors at work required special handling. A speedy cure was not to be looked for. It must be remembered that the disease, as a rule, was multiform in character, and the several varieties naturally called for different formulæ, especially as to the strength of the remedy. His experience had been that milder remedies were called for in the erythematous than in the vesicular and bullous forms. A difficulty to contend with was the tendency of the disease to repeat itself, a new crop coming out before the older ones had disappeared. Almost all his cases had been chronic and had previously undergone all manner of treatment. He had long since arrived at the conclusion that most benefit was to be derived from stimulating applications, especially those which acted as revulsives—tar, carbolic acid, sulphur, thymol, ichthyol, resorcin, etc. That which had proved of greatest value in his hands had been sulphur ointment, two drachms to the ounce, applied by thorough and long rubbing so as to make a positive impression upon the skin, causing, as it were, local shock. Special emphasis was placed upon the manner of making the application. Internal remedies had proved of little avail in most cases.

Atrophia Maculosa et Striata following Typhoid Fever.—Dr. F. J. Shepherd, of Montreal, presented the history of a case, illustrated by photographs. It had occurred in a boy of fifteen years, brought to the hospital with typhoid fever. During the course of the disease he was delirious and had epileptic attacks. Macular lines formed, extending across the patellæ and around the anterior aspect of the thigh to near the middle, some being several inches long. They were of a reddish color and afterward became paler; they were not distinctly shiny and were grooved. The interesting point in the case was the occurrence of the atrophic lines in a boy during acute fever. He did not think their presence could be accounted for, as they were in œdematous subjects, by stretching. There seemed to be a nerve element in the causation.

Immigrant Dermatoses.—Dr. J. C. White, of Boston, read a paper with this title. It included an account of the affections of the skin induced by life on shipboard, those induced after arrival by conditions not existing previously, and those seen in other countries, but not in native Americans. Conditions on shipboard tending to induce skin affections were mental depression on leaving home, seasickness, filth and foul air, constipation, inability to take exercise, and contact with others having contagious disease. It was not uncommon for young persons to come a week or ten days after landing with an urticarial, bullous, or eczematous eruption. Vaccination on shipboard not infrequently left a local sore of wider area than usual, due perhaps to a depressed state of health and the fact that the patient had not been revaccinated since childhood. Under the second head the causes were new agencies not existing at home, among them being, perhaps, mosquitoes. Under the third head, imported affections, the most common was scabies; among others was that rare affection, melanosis lenticularis progressiva, none of the cases here, as far as he knew, being in native American stock. Prurigo also might be regarded as an imported disease, and was seen scarcely elsewhere than in cities with a large foreign population, like New York and Chicago. The relative prevalence of vegetable parasitic affections among us was likely to be largely influenced by immigration. Tinea favosa, tinea trichophytina, and tinea versicolor were commoner in countries whence we received many immigrants than they were here. The same was true of tubercular affections of the skin, and he was disposed to regard lupus, scrofulodermia, scrofulous gummata, tuberculosis verrucosa, etc., as closely allied affections. Leprosy was another imported disease, coming from many sources. In conclusion, the author suggested the propriety of memorializing the National Government with regard to carrying out the following measures: 1. To cleanse all immigrants of animal parasites on their landing by treatment of the person and clothing. 2. To retain in quarantine all immigrants with other contagious diseases, including venereal affections, a sufficient time for treatment. 3. To return to their homes all persons affected with such contagious diseases as it was impracticable to treat in such manner, such as leprosy, tuberculosis, and advanced syphilis. 4. To provide for efficient medical inspection at foreign ports of emigration, with the power of arresting the transfer of dangerous diseases to this country.

A Case of Second Infection with Syphilis and a Case of Syphilitic Infection in a Person Hereditarily Syphilitic.—Dr. Taylor gave detailed histories of the two cases which had come under his observation within a year. The first was in a sickly-looking woman, aged thirty-eight, who entered Charity Hospital in January last. Eleven years ago she had syphilis, having had hard swelling of the external genitals, enlargement of the glands, an eruption shortly afterward all over the body, and headache at night. In the second year she had rheumatoid pains and mucous patches, and in the third year serpiginous syphilides, etc. She married and gave birth to two weakly children, which soon died. Her husband having died, she again lapsed in virtue, and came to Charity Hospital in January last, broken down in health. There were typical miliary syphilides scattered over nearly the entire surface. All the ganglia were decidedly enlarged. There were mucous patches of the tongue and mouth and evidences of alopecia. She suffered with pain in the joints, worse at night. The second attack was much more severe than the first. She was now improving under mercurial treatment.

The second case was one of acquired syphilis in a person hereditarily syphilitic. The woman came to him first in 1879, aged nineteen, when he treated her for a destructive syphilitic sore on the face, arising from hereditary syphilis, a clear history of which was afterward given him by her mother, who had acquired syphilis three months before the child's birth. The child had a rash, condylomata, and snuffles, and was weakly. Five years after his patient's first visit, in 1885, she returned, and had then macular roseola and scaling syphilides all over the body, condylomata of the genitals, mucous patches of the pharynx, etc. The infection began in the right labium, and was contracted from the husband. The glands were all enlarged, and there was alopecia. She had since been cured.

Electrolysis in the Treatment of Lupus Vulgaris.—Dr. G. T. Jackson, of New York, in a paper on this subject, said the advantages that electrolysis offered in the treatment of lupus vulgaris, compared with other and older measures, were as follows: 1. It was comparatively painless, and there was no need of an anæsthetic. 2. There was not the slightest loss of blood, and thus there was no dread of a surgical operation. 3. The patient was not kept a moment from his regular business, there was no deformity caused by the treatment, and there was no after-treatment or application to mar the appearance. He was also spared the discomfort of a swollen face and eyes, the ordinary attendant on the arsenical or pyrogallic-acid treatment. 4. The treatment went to the root of the disease, with far more exactness and less damage to the surrounding skin than any other caustic or surgical method. 5. The scar left was smooth and not unsightly. 6. The result obtained was as good as by any previous method, if not better.

Plica.—Dr. H. W. Stelwagon, of Philadelphia, showed photographs from a case that he had seen a few months before. He was not sure that plica was the right name for it. An Irishwoman who had come to be treated for acne called his attention to a lock of hair, as thick as one's thumb, springing from the middle of the occipital region, closely matted together, and falling as low as the ankles, terminating in a brush-like end. It was not sticky and had begun to grow four years before, without apparent cause. The rest of the hair fell over the shoulders and was not matted. There was no uncleanliness.

The Treatment of Erysipelas.—Dr. C. W. Allen, of New York, based a paper on the results of treatment during the past two years of 419 cases in the hospitals on Blackwell's Island, not under his care, and 47 cases in his own practice during the same time. The author thought that, although tending to pursue a definite and usually favorable course, the disease could be checked in its progress by treatment. Among the applications that had been used were boric acid, iodine, resorcin, bicarbonate of sodium, ichthyol, collodion, and aristol, and scarification with the knife and the application of plaster strips had been used. He was disposed to think favorably of scarification and adhesive plaster, separately or together in the same case, but had tried them in only about two cases.

Notes on Pilocarpine in Dermatology.—Dr. H. G. Klotz, of New York, gave a review of the history of pilocarpine in dermatology, and said it had not met with the acceptance that might have been expected if its other therapeutic virtues had been at all proportionate to its diaphoretic qualities. He had employed it in a few cases, including eczema, pruritus of the anus, and affections with dryness and irritation. The result had been such as to encourage him to give it a further trial. It might be given internally or by hypodermic injection, in small doses, long continued. A tenth of a grain was likely to prove sufficient to keep the skin moist.

Aristol.—Dr. Allen read a paper giving the results of his experience with this new remedy, and summed up with the statement that it seemed to possess valuable cicatrizing, granulating, and stimulating qualities, was void of the objectionable odor of iodoform, and seemed valuable in certain dermatological cases.

Results of the Treatment of Dermatological Cases with Sulphur Water at Richfield Springs.—Dr. C. C. Ransom, the physician in charge of the new bathing establishment, by invitation, gave the results of treatment of dermatological cases there. Since the new bath had been completed, during the summer, twenty-two cases had been treated, including nine of eczema, one of psoriasis, four of seborrhœa, one of pruritus, and two of urticaria. There had been marked improvement in nearly all these cases, and in some a cure. The baths were of a temperature usually of from 95° to 106° F., lasting from seven to fifteen minutes. A longer stay in the sulphur bath had a depressing effect, lasting some hours.

The meeting adopted resolutions expressing appreciation of the very extensive and complete equipment for water treatment established by Mr. Proctor at the Springs.

Special Articles.

LETTERS TO MY HOUSE PHYSICIANS.

By WILLIAM OSLER, M. D.,

BALTIMORE.

Letter V.

Heidelberg and Strassburg.

Dear H.: We stayed a day at Frankfort, as I was anxious to visit Weigert, and my colleague wished to see Edinger about methods of brain preparation. After Cohnheim's death, in 1884, Weigert left Leipsic and accepted the charge of the Laboratory of the Senckenbergischen Stifts (a hospital founded in 1763 by Dr. Senckenberg), a position which has been occupied by several most distinguished German professors, notably Soemmerring, the anatomist. It would be difficult to mention a histologist to whom the profession is more indebted than to Professor Weigert, as by the introduction of the aniline stains he has revolutionized the study of bacteriology, while his special methods have been of incalculable service in normal and pathological histology. We found him busy at a new stain for neuroglia, which will show the connective-tissue framework as plainly as his well-known method does the medullated nerve fibers. It is not yet perfected, but he demonstrated specimens of extraordinary beauty, showing the rich plexus of fibers in the gray matter of the cord. The stain will be most useful in determining slight grades of sclerosis, as it picks out unerringly every neuroglia element. The method is not sufficiently matured to warrant publication, and in this respect Weigert exercises a most commendable caution. He will work month after month, early and late, until every possible modification has been tried and every contingency met before the plan is finally approved and announced. I was in the laboratory at Leipsic when he was working at his celebrated nerve stain, and the patient thoroughness with which day by day the method was tested, then improved, and at last completed, was a valuable lesson, and showed a spirit which all of us might emulate. Another important stain for elastic fibers will also be ready soon, which brings out the most delicate fibrils with the greatest distinctness, such, for example, as a set of longitudinally arranged filaments just beneath the endothelial lining of the arteries. There are places in the laboratory for six or eight special students, and, with so genial a teacher and so thorough a master of histological methods, it is not surprising to hear that the applicants are numerous.

Edinger was extremely kind in showing us his collection of brain sections, which is particularly rich in those of the frog and turtle; but he is also, as you know from his excellent little work, a diligent student of human cerebral anatomy. It is remarkable that a man engaged in active practice can spare time for these studies, but I suppose he has learned the secret of the value of odd minutes and spare hours. He had recently received from Dr. Ramon y Cajal, the Spanish histologist, a specimen illustrating his remarkable discovery of the branching of the nerve fibers in the spinal cord. The sections prepared by Golgi's well-known method showed collateral branches from the axis-cylinder process, some of which form a dense plexus about the ganglion cell.

At Heidelberg we found the outside attractions of this ideal university town too strong for much medical visiting. Of course we saw Professor Erb, whose extensive writings on the nervous system are as highly appreciated in America as in Europe, and in his morning rounds we found a rich material in well-arranged wards. For many years the clinic here has been particularly strong in the department of neurology, the result no doubt of the impetus given by the master mind of Friedreich; and Erb and Franz Schultze, now professor at Bonn, have worthily maintained its reputation. Naturally there were cases of Friedreich's ataxia and of Erb's dystrophia muscularis progressiva on exhibition. A short time before our visit, Horsley had come over from London to operate on a son of the late Professor Chelius, who had paraplegia, the result of an injury in the hunting field. Erb stated that it was too soon to say how far the operation had been successful. One gets the impression that everything works smoothly at the medical clinic, and I can well understand how it is that the young men who have been here speak very warmly of it as a most agreeable place for post-graduate study.

The pathological laboratory has long been a favorite resort for American students, and we are indebted to Professor Arnold for a very pleasant hour in its various departments. He is one of the most expert histologists in Europe, and, having been for years familiar with his numerous and elaborate contributions in Virchow's *Archiv*, I was particularly glad to have an opportunity of meeting him.

At the biological laboratory we saw Professor Butschli, perhaps the greatest living authority on the protozoa. He talked most interestingly about the pathogenic sporozoa and the hæmatozoa of birds and fishes. He had lately seen in Italy the malarial organisms, and it was gratifying to hear that, although he had had grave doubts at first, he had been convinced of their parasitic nature. The problem of the life history of these parasites outside the body could be best attacked in a biological laboratory, under the direction of a man thoroughly acquainted with the conditions of growth of the protozoa. By the way, a knowledge of these organisms is gradually reaching this country. Professor Rosenbach, of Breslau, was with us at the hospital last autumn for a day or two, and we showed him the various forms, but he did not seem at all convinced. He has recently, however, had opportunities of studying cases, and has published a paper expressing his concurrence with Laveran's views. Quincke, too, of Kiel, one of the highest authorities on the blood, has within the past few weeks described the parasites in several cases. As we strolled along the Castle Road we inquired the nature of the large building close to the hotel, and were told that it was Professor Schweninger's "Kur-Anstalt." You know, I dare say, the story of the Munich Docent who became Bismarck's physician, and was foisted into the Berlin faculty as professor of dermatology. Certainly he has shown great wisdom in the choice of a locality in which to make the fat lean and the lean fat. We were shown through the place by the resident physician, and, so far as we could gather, the remedial agents employed were the old-time favorites of Asclepiades—regimen, exercise, baths, and friction. The professor appears once a week and directs the treatment.

With only three or four days to spend at Heidelberg, we escaped quickly from hospitals and laboratories, and in delightful mountain walks, at the castle, and, must it be said, at "Zum Perkeo," we tried to recognize, if not to feel, the romance which fills every nook and corner of this place. A month's sojourn in this earthly paradise would be the thing for the tired, patient-worn doctor who goes to Europe for rest. Resisting the devil, which drives so many of us from Dan to Beersheba, racketing about in a restless holiday, let him unpack his trunk at the Castle Hotel and spend his days on the mountains, and he will find peace of mind and rest of body.

With the exception, perhaps, of certain of the new laboratories at Berlin, the university buildings at Strassburg are the finest in Germany, having been paid for by the Imperial Government, which still furnishes the means of support. They are on a most magnificent scale, and comprise on the east side of the town the central university building and the chemical, physical, geological, and botanical laboratories, while on the south side near the old City Hospital are the various institutes devoted to physiology, physiological chemistry, pathology, anatomy, and pharmacology, and the clinic for nervous and mental diseases. Together the latter form a most imposing group, just within the fortification wall, with the buildings not too close to spoil the architectural effects and each within easy access of the other, so that no time is lost by the student.

The medical clinic is still in the City Hospital, but new accommodations have been promised and are much needed, as the old building looks like a survival from the tenth century. Professor Naunyn, who succeeded Kussmaul about eighteen months ago, is a representative German clinician, thoroughly scientific, thoroughly practical, an ardent worker, an admirable teacher, and a most genial colleague. Like his teacher, Frerichs, he is an able chemist and a good experimenter. He has had a varied professorial career, having occupied in succession the chair of medicine at Dorpat, Bern, and Königsberg. The method of teaching is practically the same as at other German schools, but on two mornings of the week the class is taken into the wards and the students are drilled at the bedside. We were present at one of these demonstrations, which was perfect of its kind, but, as is so often the case, there were too many men clustering about the patient. Professor Naunyn then took us through all the wards and pointed out several cases of special interest, among them one of Virchow's hyperplasia of the circulatory system in a young girl, and another of hepatic intermittent fever. In the chemical laboratory we found in progress experiments on the brains of birds, conducted by one of the assistants, and researches on the chemistry of gall-stones and the pathology of diabetes. The collection of gall-stones was very fine, and the professor has recently demonstrated certain canaliculi through which the cholesterin reaches the central parts.

At the pathological laboratory Professor von Recklinghausen was just about to lecture, and we heard a very concise yet clear explanation of the pathology of emphysema and bronchiectasis. I am sure many teachers would have spent three lectures in covering the same ground; only a few typical, perfectly illustrative specimens were shown. The demonstration courses, the daily sections, the classes in pathological histology, and the private work are personally conducted by the director, who seems to leave very little to the assistants. This is one reason, perhaps, of the popularity of this laboratory with foreigners. It was rather surprising to see the students cutting sections in the old free-hand method with the razor, but the professor insists that often a better idea of the changes in a tissue can be had from a moderately thick than from an extremely thin section. A point of much greater value was the care with which fresh specimens were examined either by section or by teasing. The uniform kindness and the untiring patience with which Professor von Recklinghausen treats the young men who work under him finds its proper reward in the affection with which he is regarded by them.

An illustration of the catholic character of the mind of the great master, Virchow, is afforded by the fact that four of the greatest physiological chemists of Germany grew up under his inspiration—Hoppe-Seyler, Kühne, Liebreich, and Salkowski. The Physiological Chemistry Institute, presided over by the first mentioned of these men, is by far the most complete in the world, and has been planned and equipped regardless of expense. There were few men I was more curious to see than Hoppe-Seyler. In the first place, as our respect for a subject is oftentimes in direct proportion to our ignorance, I had never, in spite of a period of study with Salkowski, outgrown a sense of the deepest reverence for physiological chemistry—a reverence which was increased, if possible, by an acquaintance with the works of the Strassburg professor; and then my assistant and successor at McGill, Dr. Wesley Mills, during a prolonged stay "learned his great language, caught his clear accents," and made me feel that as a man and as a worker Hoppe-Seyler was in some ways exceptional. We found a class of about thirty students listening to a lecture on gastric digestion, the steps of which were very skillfully shown. The greater part of the time was occupied with a discussion of the nature and varieties of peptone. It was gratifying to hear the name of Dr. Chittenden, of Yale, so frequently mentioned, on whose work the professor seemed to place a very high estimate. Hoppe-Seyler is an older man than I expected to find, but he is vigorous and active and has a very friendly and attractive manner. I knew that the institute was a large one, but the great extent and the completeness in every detail were a revelation. The advantages for research work are so favorable that the special laboratory is always full of men from all parts of the world. The students can follow practically in the general laboratory the subject upon which the professor is lecturing, but it is to be seen at a glance that the prime object of the institution is investigation.

Professor Schmiedeberg very kindly showed us his Pharmacological Institute, which is also, I believe, without parallel among similar institutions. As you will find an admirable description by Dr. Sibley, with illustrations, of the chief Strassburg laboratories in the early numbers of the *British Medical Journal* of this year, I will spare you the account of physiological and anatomical institutes. In the former, besides Professor Goltz's dogs in a more or less brainless condition, the work of Professor Ewald interested us intensely as an illustration of micro-chirurgy. In operating on the semicircular canals of pigeons, in order to obviate all unnecessary laceration and bleeding, the dissection, with the strictest antiseptic precautions, was made under a specially devised low-power microscope, and the vein, not so big as the finest thread, which runs over the canal, was included between two ligatures and cut. He had the tiniest little instruments, and every detail was carried out in miniature. I must mention the extreme kindness of Professor Schwalbe, with whom we spent the last, as in many ways it was our best, day in Germany.

Now, as you are in part a Teuton, it may interest you to know the general impression one gets of the professional work over here. I should say that the characteristic which stands out in bold relief in German scientific life is the paramount importance of knowledge for its own sake. To know certain things thoroughly and to contribute to an increase in our knowledge of them seems to satisfy the ambition of many of the best minds. The presence in every medical center of a class of men devoted to scientific work gives a totally different aspect to professional aspirations. While with us—and in England—the young man may start with an ardent desire to devote his life to science, he is soon dragged into the mill of practice, and at forty years of age the "guinea stamp" is on all his work. His aspirations and his early years of sacrifice have done him good, but we are the losers and we miss sadly the leaven which such a class would bring into our professional life. We need men like Joseph Leidy and the late John C. Dalton, who, with us yet not of us, can look at problems apart from practice and pecuniary considerations.

I have said much in my letters of splendid laboratories and costly institutes, but to stand agape before the magnificent structures which adorn so many university towns of Germany and to wonder how many millions of marks they cost and how they ever could be paid for, is the sort of admiration which Caliban yielded to Prospero. Men will pay dear for what they prize dearly, and the true homage must be given to the spirit which makes this vast expenditure a necessity. To that *Geist* the entire world to-day stands debtor, as over every department of practical knowledge has it silently brooded, often unrecognized, sometimes when recognized not thanked.

The universities of Germany are her chief glory, and the greatest boon she can give to us in the New World is to return our young men infected with the spirit of earnestness and with the love of thoroughness which characterize the work done in them.

Book Notices.

L'intoxication chronique par la morphine et ses diverses formes. Par le Dr. L. R. Regnier, ancien interne en médecine des hôpitaux de Paris. Paris: E. Lecrosnier et Babé, 1890. Pp. 5 to 171. [Publications du *Progrès médical.*]

In this interesting monograph the author concludes that the prolonged use of opium or its alkaloids produces a chronic intoxication, morphinism. The intoxication may be due to inevitable therapeutic necessity or to a pathological desire originating from the temperament of the individual. The *morphinisé* is distinguished by the absence of psycho-sensorial phenomena, and by the absence of grave symptoms when the drug is stopped. The *morphinomaniac* is distinguished by the almost constant presence of a nervous state, hereditary or acquired by disease; or by physical or psychical symptoms of degeneration, indicated by a mixture of psycho-sensorial phenomena with manifestations usual in ordinary morphine intoxication. Morphine intoxication rarely produces complete loss of responsibility, and it does not cause irresistible impulses; the latter, however, are present in a morphinomaniac, especially when deprived of the drug.

Morphinomaniacs should be confined in asylums until they are cured, if such a result is possible.

The author has collected a large number of illustrative cases, and completes his work with a copious bibliography.

Die Untersuchung der hinteren Larynxwand. Von Dr. Gustav Killian, Privatdocent für Laryngologie und Rhinologie in Freiburg i. Breisgau. Mit 40 Abbildungen in Texte. Jena: Gustav Fischer, 1890. Pp. 77.

The author enters into an interesting theoretical consideration of the methods of inspecting the posterior wall of the larynx, proving by trigonometrical calculations the proper angle for the mirror and attitude of the head in order to admit of an inspection of that region. The desired end can be obtained by two methods: one with the head thrown backward and a mirror (holding the epiglottis out of the way) reflecting the posterior surface of the larynx on a second mirror held against the velum palati; the second, with the patient standing and holding the head forward with the face downward, and the physician kneeling to obtain the reflection of the posterior wall in a mirror held against the velum. A number of cases are cited in evidence of the necessity of inspecting the posterior as well as the anterior laryngeal surface; and they demonstrate the practical applicability of the methods described.

Rheumatism and Gout. By F. Leroy Satterlee, M. D , Ph. D., Professor of Chemistry, Materia Medica, and Therapeutics in the New York College of Dentistry, etc. Detroit: George S. Davis, 1890. Pp. 83. [The Physician's Leisure Library.]

This excellent monograph, while containing little that is new, is eminently practical and presents the subject in a concise and interesting manner. It deals chiefly with treatment. The author, holding firmly the uric-acid theory of causation, relies almost exclusively upon diet, cholagogues, and alkalies. His sweeping condemnation of the salicylates in rheumatism and of colchicum in gout is to be regretted.

A particular merit of the book is its literary style.

Diabetes Mellitus and Insipidus. By Andrew H. Smith, M. D., Professor of Clinical Medicine and Therapeutics at the New York Post-graduate Medical School and Hospital, etc. Detroit: George S. Davis, 1890. Pp. 74.

The author states that the object of this little work is not to compress into the fewest possible words all that is known or surmised in regard to diabetes, but to give the points that will most interest those who have to manage cases of this disease. Undetermined questions are not discussed. Prevention, dietetic treatment, the use of drugs, and hygienic measures are carefully considered, and the best methods indicated. As the outcome of experience and skill, the brochure recommends itself alike to the general and to the special practitioner.

Some Fallacies concerning Syphilis. By E. L. Keyes, M .D., etc. Detroit: George S. Davis, 1890. Pp. vi–71. [The Physician's Leisure Library.]

This monograph is so clearly written that one is in no sense left in doubt as to the writer's opinions. The mercurial treatment is well supported, and, with records of more than forty years at his disposal, Dr. Keyes should be able to speak authoritatively of that subject.

Practical Electricity in Medicine and Surgery. By G. A. Liebig, Jr., Ph. D., Assistant in Electricity, Johns Hopkins University, etc., and George H. Rohé, M. D., Professor of Obstetrics and Hygiene, College of Physicians and Surgeons, Baltimore, etc. Profusely illustrated. Philadelphia and London: F. A. Davis, 1890. Pp. viii–3 to 383. [Price, $2.]

This is a thoroughly useful book, with the exception, perhaps, of its superabundance of formulæ, which make the first part a trifle too technical for the average practitioner. The science of electrical forces, the various forms of electrical and magnetic apparatus available for medical and surgical work, the best methods of caring for batteries, the effects of electric currents upon tissues and organs of the body in health and disease, the general therapeutic effects of electricity, modes of application—especially in gynæcology, diseases of the skin, and diseases of the male genito-urinary organs—are carefully considered and practical suggestions are formulated. Whatever brings into greater knowledge electricity as a remedial agent must be received with gratitude. The work under consideration aids in the accomplishment of this purpose.

Transactions of the American Orthopœdic Association. Third Session, held at Boston, Mass., September 17, 18, and 19, 1889. Volume II.

In this volume the principal subjects in orthopædic surgery are dealt with by the leading men of the country. Hip disease is given special consideration, both in original articles and in the discussions.

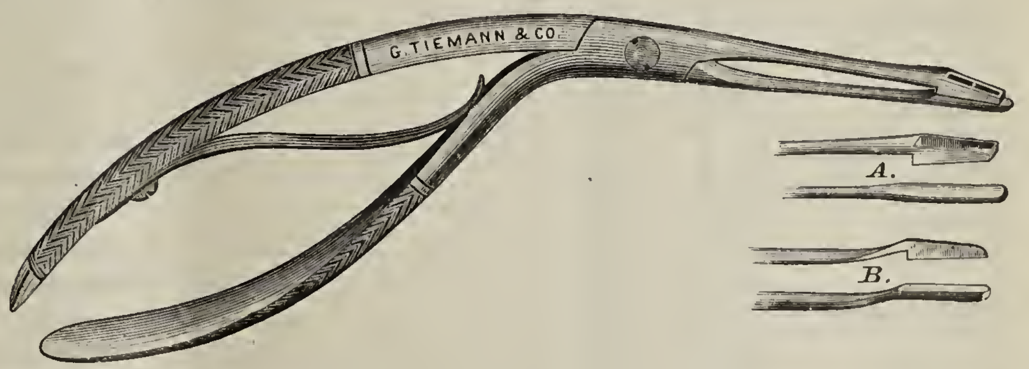
The volume will be a valuable addition to a surgical library.

New Inventions, etc.

A FEW NEW CUTTING INSTRUMENTS FOR NASAL WORK.

By A. T. Veeder, M. D.,
SCHENECTADY, N. Y.

Having recently had made by Snowden, of Philadelphia, and remodeled by Messrs. Tiemann & Co., of New York, several nasal cutting instruments or forceps, I give below illustrations of the same.



The first—somewhat of the order of a septal punch—I have used with great comfort, quickly making a passage through the nose where there was partial opening or complete occlusion of the nares by reason of bridges of bone or bone and cartilage extending all the way across, producing either permanent pressure against or indentation of the turbinated bodies.

This cutting punch or forceps, the edge of the cutting part of whic is of well-tempered steel, in operating is pressed on the reverse blade of the instrument, which is flat and faced with a thin plate of German silver so that the edge may not be quickly dulled, and yet not so quickly indented as the softer metal copper might be. It cuts through bone easily in a very few seconds, and does away, in my hands, with a good deal of protracted and troublesome sawing, leaving separated surfaces which heal quickly and smoothly. Several widths and sizes are needed, inasmuch as all noses are not of the same proportion.

The ends which enter the nose should be two inches and a half in length from the point where the two blades are connected. Also the instruments, as will be observed in the cuts, have a curved and angular form, which allows the eye to see straight into the nose while they are introduced, and the reopening spring gives convenient and quick movement.

The other two are simply right and left cutting forceps, having one cutting edge or blade to press flat against the septum, bringing it down on the smooth face of the opposite blade, which has also a thin plate of German silver to receive the pressure of the cutting edge.

These two instruments are designed for the quick removal of small ecchondroses or exostoses which present the shelf-like form.

September 9, 1890.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for September 12th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
Philadelphia, Pa	Aug. 30.	1,064,277	390	.	..	..	..	..	..	14	3	11	1	7
Brooklyn, N. Y	Aug. 30.	871,852	397	..	..	..	..	..	..	4	..	10	2	9
Brooklyn, N. Y	Sept. 6.	871,852	378	..	..	..	..	..	..	3	2	3	1	4
Baltimore, Md	Sept. 6.	500,343	158	..	..	..	..	..	..	6	..	4	..	6
Boston, Mass	Sept. 6.	446,507	191	..	..	..	..	..	..	7	1	11	.	....
Cincinnati, Ohio	Sept. 5.	325,000	94	..	..	..	..	..	..	3	..	6	..	....
New Orleans, La	Aug. 30.	254,000	106	..	..	..	..	..	..	..	..	1	..	1
Washington, D. C	Aug. 30.	250,000	125	..	..	..	..	..	..	7	2	6	1	....
Washington, D. C	Sept. 6.	250,000	100	..	..	..	..	..	..	8	1	4	..	....
Pittsburgh, Pa	Aug. 30.	240,000	81	..	..	..	..	..	..	1	..	4	..	1
Detroit, Mich	Aug. 30.	230,000	76	..	..	..	..	..	..	2	..	10	..	....
Milwaukee, Wis	Sept. 6.	220,000	86	..	..	..	..	..	1	3	..	3	1	....
Minneapolis, Minn	Aug. 30.	200,000	45	..	..	..	..	..	..	3	..	3	1	....
Minneapolis, Minn	Sept. 6.	200,000	47	..	..	..	..	..	..	..	..	1	1	....
Kansas City, Mo	Aug. 30.	135,000	33	..	..	..	..	..	..	1	..	..	..	....
Kansas City, Mo	Sept. 6.	135,000	20	..	..	..	..	..	..	3	..	..	..	....
Rochester, N. Y	Sept. 5.	135,000	49	..	..	..	..	..	..	1	..	1	..	....
Providence, R. I	Sept. 6.	130,000	50	..	..	..	..	..	..	1	..	2	..	1
Indianapolis, Ind	Sept. 5.	129,346	27	..	..	..	..	..	..	1	1	..	..	....
Richmond, Va	Aug. 30.	100,000	46	..	..	..	..	..	..	1	..	1	..	3
Richmond, Va	Sept. 6.	100,000	33	..	..	..	..	..	..	2	..	3	..	....
Toledo, Ohio	Sept. 5.	81,650	35	..	..	..	..	..	..	1	..	3	..	....
Nashville, Tenn	Sept. 6.	75,695	30	..	..	..	..	..	..	..	..	..	..	1
Fall River, Mass	Sept. 6.	75,000	24	..	..	..	..	..	..	..	..	1	..	....
Charleston, S. C	Aug. 30.	60,145	58	..	..	..	..	..	..	3	..	..	..	2
Charleston, S. C	Sept. 6.	60,145	32	..	..	..	..	..	..	2	..	..	..	....
Portland, Me	Sept. 6.	42.000	11	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Aug. 15.	40.000	14	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Aug. 22.	40,000	7	..	..	..	..	..	..	1	..	..	..	....
Galveston, Texas	Aug. 29.	40,000	20	..	..	..	..	..	..	1	..	1	..	..
Binghamton, N. Y	Sept. 6.	35,000	7	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Aug. 2.	34,397	13	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Aug. 9.	34,397	14	..	..	..	..	..	..	..	..	..	..	....
Altoona, Pa	Aug. 16.	34,397	11	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y	Aug. 30.	32,000	10	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y	Sept. 6.	32,000	10	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y	Aug. 30.	26,000	12	..	..	..	..	..	..	..	1	..	..	....
Auburn, N. Y	Sept. 6.	26,000	7	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass	Aug. 30.	22,011	11	..	..	..	..	..	..	..	..	1	..	....
Rock Island, Ill	Aug. 30.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla	Aug. 30.	15,000	5	..	..	..	..	..	..	2	..	..	..	....

Spirometry.—"M. Joal, of Mont Dore, has made a number of observations in spirometry that lead him to the conclusion that many nasal and pharyngeal affections produce a distinct diminution in the capacity of the lungs. Thus in cases where hypertrophic rhinitis, adenoid tumors of the naso-pharynx, chronic coryza, etc., have been cured the capacity of the lungs, as measured by the spirometer, is frequently increased by a quarter, and occasionally even doubled. M. Joal has frequently found that public singers, when they complain of fatigue of the voice or of diminution in its power or range, are suffering from some, perhaps quite unsuspected, trouble in the nose or pharynx, and that if this is cured the voice recovers itself completely. He suggests that professional singers should know their own respiratory capacity, and that this should be occasionally tested, so that any diminution may serve to give a warning of possible mischief in the nose or pharynx, which, if attended to in time, may be met by appropriate treatment."—*Lancet.*

ANSWERS TO CORRESPONDENTS.

No. 330.—There is no advantage in stitching the wall of the bladder to the skin.

No. 331.—The excess of acid in the tincture of iron is neutralized by the sodium tartrate contained in the preparation, and the resulting mixture is said to be tasteless and the systemic action of the iron to be facilitated rather than impaired.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, September 27, 1890.

Original Communications.

A CASE OF BRAIN SURGERY

AND ITS RELATIONS TO CEREBRAL LOCALIZATION.

By WILLIAM A. HAMMOND, M. D.,
WASHINGTON, D. C.

Miss G. entered my Sanitarium July 20, 1890, suffering from an old left hemiplegia, epileptic convulsions, mental deterioration, and occasional paroxysms of maniacal excitement. The clinical history taken by Dr. E. L. Tompkins, the resident physician, soon after her admission, is as follows:

Nineteen years of age. Father, Italian; mother, American. Residence, Marshall, Texas. Family history good. Father and mother healthy. No history of syphilis. The patient was born healthy and normal. Rather difficult labor, but no forceps was used. First sickness occurred when the infant was five weeks old and consisted of cholera infantum. During this attack she became rigid, arms and legs contracted and flexed, more pronounced on the left side than on the right. Right side recovered, but the left side remained more or less contracted. Shortly after this she had aural catarrh on the left side and a very offensive discharge. From this she apparently entirely recovered without impairment of hearing. During the period of teething she had "spasms" accompanied with frothing at the mouth. She had no more of these attacks until she was about five years old, when, upon one occasion while sitting quietly in a chair, she was seized with a convulsion attended with unconsciousness, frothing at the mouth, and a deviation of the eyes toward the left side. She had no other seizures after that for a year, when another ensued similar to the last. After that the convulsions became more frequent, occurring at intervals of from one to six months. They generally began with a rigor down the back, cold hands and feet, and trembling of the left side. It was impossible to get her warm until after the attack. During this period she was under no special treatment except during a seizure, when a physician would be called in. Measures, however, were adopted for rectifying the contractures. These consisted of electricity (faradism), massage, and tenotomies, which did not improve matters. When she was about ten years of age the seizures assumed a different form; there were nausea and vomiting, and again they were ushered in with a period of great excitement, during which she would sing and shout loudly. As she was very pious, everything of a religious nature would cause great mental disturbance. For the last four years she has been aware, for sometimes as long as twelve hours, that an attack was about to occur, as she would be pale, especially around the eyes, "bumps" would make their appearance on the face, and there was more or less vertigo with mental confusion. After the occurrence of a paroxysm her mind would clear up and she would feel much better. Sometimes there was loss of consciousness and again not, but she was always greatly frightened before and for some time after the seizure. Began menstruating at twelve years of age, each period lasting four or five days; was regular for about a year and then ceased menstruating for two years; since then has been irregular. Epileptic convulsions much more severe at the time menstruation ought to have appeared. Left hand apparently stopped growing some six years ago, as also did the left foot. For the last five years she has exhibited marked symptoms of mental derangement, committing many singular actions and being very silly and weak-minded. Has been to school for a short time, but would have headache and fits when studying for any considerable period. At times could read very well, at other times would seem unable to read. Her memory has been apparently good, especially in regard to matters concerning herself. Has had none of the ordinary children's diseases except measles. For the last six months her mental symptoms have been much more intense, singing loudly on improper occasions, and making a great deal of noise, also using very bad language; religion and money being subjects that would especially disturb her.

Examining her on her admission to the Sanitarium, I found that both mind and body were undeveloped. Her expression indicated a state of decided imbecility, though at times in the course of my conversation with her she exhibited considerable sharpness. The left hand was in a state of extreme flexure and was permanently contracted, although several of the flexor muscles had been divided by a surgical operation. The elbow also was in a state of flexion, though not fixedly contracted, there being some slight degree of action. The muscles about the shoulder joint, especially the deltoid, were paralyzed and atrophied. The whole extremity was in a state of atrophy, and there was not a muscle that was not more or less paralyzed.

The left lower extremity was in a similar state, though not anything like to the same extent. The muscles of the hip and thigh were in tolerably good condition. The extensors of the foot, especially the *tibialis anticus* and peroneal muscles, were possessed of very slight contractile power. The *gastrocnemius* and *solæus* muscles were in a state of contraction, although the *tendo Achillis* had been divided several times. All of the paralyzed muscles of both the upper and lower extremity exhibited diminished electric excitability.

The left side of the face was much less mobile than the right. There was no permanent strabismus, but occasionally there had been double vision; the pupils were equal and reacted well to light and to near and far vision. The tongue was apparently mobile, but when protruded deviated strongly to the left, the paralyzed side. The speech was somewhat indistinct, the lingual sounds were imperfectly formed, and there appeared to be a deficient adeptness in using the tongue for purposes of articulation. Occasionally there had been difficulty in swallowing. The eyesight was not materially affected, but upon ophthalmoscopic examination I found a venous congestion of both retinæ and chorioids with somewhat whitened discs. The hearing was not impaired, though, as stated in the clinical history, there had been in early life profuse otorrhœa. The patient, although nineteen years of age, was physically undeveloped; the skull was unsymmetrical, the right side being distinctly smaller than the left. Latterly the epileptic convulsions had become more frequent. Sometimes the muscular spasms were confined to the left side of the face, left arm and leg, but again, though originating in these parts, they became general. There was always loss of consciousness.

Within the last four or five months the convulsive seizures had not only been more frequent, but she had become subject to paroxysms of intense excitement, during which she raved incoherently and was very abusive to those about her, using profane and filthy language. On any attempt being made to restrain her she fought with her arms, legs, and teeth in a manner which can only be described as ferocious. Even a few words of reproof were sufficient at times to bring on these attacks, which in all essential respects were not different from those of acute mania.

I gave it as my opinion that she was suffering from a morbid growth of some kind, involving the left parietal lobe and part of the frontal lobe, especially the ascending parietal convolution and the ascending frontal convolution. I expressed my willingness to undertake an operation for the patient's relief. I explained to the parents that the prospect of cure was very remote, but that I thought there was nothing else that offered the slightest hope of alleviation; that without such operation the child would become permanently insane, and would probably die in a few months; and that it was quite probable that during one of the paroxysms of maniacal excitement to which she was subject she might commit some act of extreme violence, even to the extent of homicide, and that there was some hope that an operation, if based upon a correct diagnosis, would result in the cure of the epilepsy and of the paroxysms of insanity. The paralysis I regarded as absolutely irremediable. They expressed their desire that the operation should be performed, and the patient herself, to whom the matter was as fully explained as was possible, was equally anxious to have anything done that afforded her even the slightest prospect of relief.

Accordingly, on the morning of July 23d, at eleven o'clock, assisted by Dr. Tompkins, the resident physician of the Sanitarium, and Dr. Pedigo, of Roanoke, Va., I began the operation. The patient was first completely anæsthetized and the scalp covering the parietal and lateral frontal portions of the skull shaved. The first point was to determine by measurements the exact situation of the fissure of Rolando. There are many methods of doing this, some of them exceedingly troublesome and complex, without thereby being of any greater practical adaptability. The fissure of Rolando is very rarely in exactly the same relative position in any two brains, and those processes for determining its location and direction by external indications, involving the measurement of angles to a fraction of a degree and lines to the fraction of a millimetre, are pedantic and useless. It has always appeared to me, and I have verified it by many observations, that the method of Reid* is sufficiently exact for all practical purposes, and that the fissure of Rolando does not, in one case out of a hundred, lie as much as the eighth of an inch anteriorly or posteriorly of the line drawn according to his method. A surgeon, therefore, has simply to proceed, guided by the directions he has given, and, placing the center-pin of the trephine on the line obtained, he will reach the fissure of Rolando as often as he may make the attempt. In the accompanying figure, taken from Reid's paper, his process is clearly shown. It is described as follows: A base line is drawn from the inferior margin of the orbit through the external auditory meatus. Two perpendiculars, F and D, are then drawn; the one, D, is raised from the depression in front of the external auditory meatus, the other, F, from the posterior border of the mastoid process. A line drawn from a point an inch and a quarter behind the external angular process of the frontal bone to another three quarters of an inch below the most prominent part of the parietal eminence will indicate the position of the fissure of Sylvius. Now let a line be drawn from the upper extremity of the perpendicular F to the point on D where it is intersected by the line indicating the fissure of Sylvius, and we have the position of the fissure of Rolando.

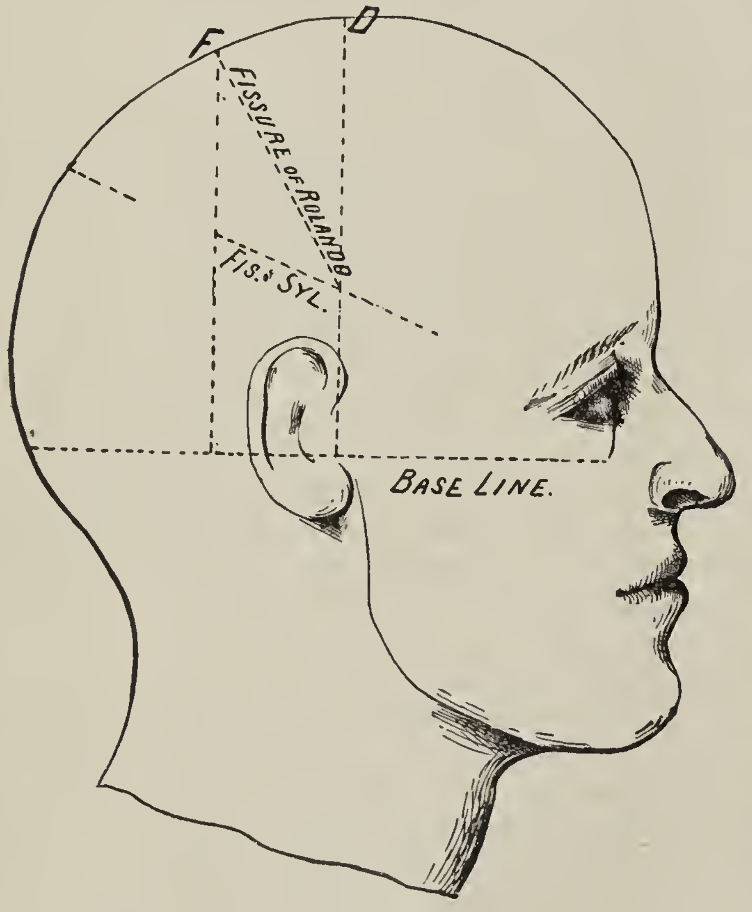


Fig. 1.

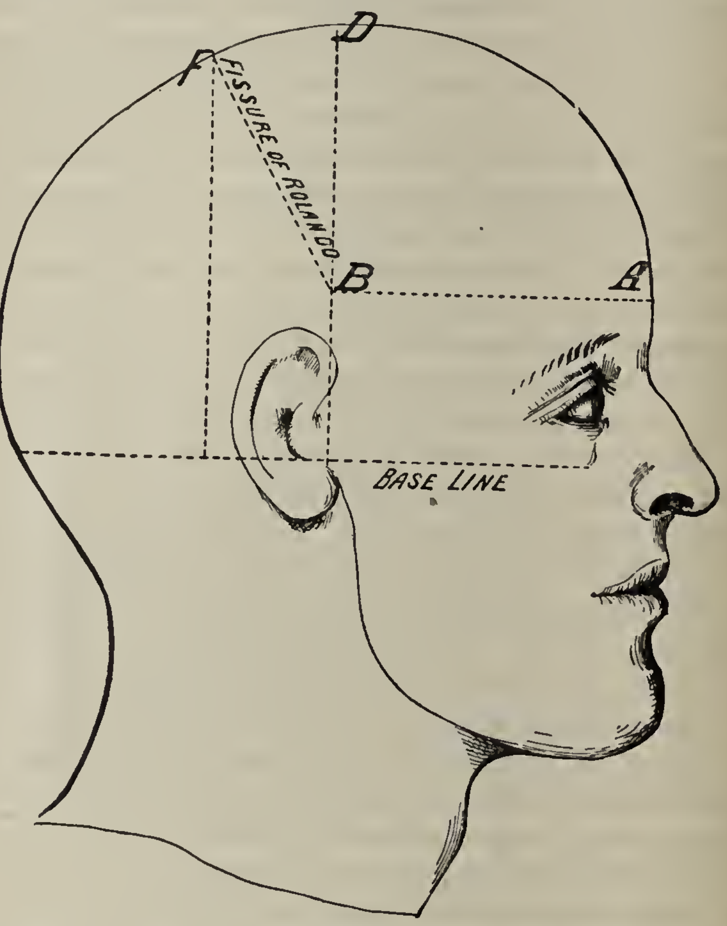


Fig. 2.

I have ascertained from repeated measurements that this process can be greatly simplified as shown in Fig. 2. The base line and the two perpendiculars are the same as in Reid's figure, but a line, A, B, is drawn parallel to the base line from a point on the forehead an inch above the supra-orbital foramen to the perpendicular, D. Now a diagonal drawn from the superior extremity of the perpendicular, F, to the point of intersection of the line, A, B, with the perpendicular, D, will indicate the course of the fissure of Rolando.

The scalp having been marked according to this method, a horseshoe incision with the convexity pointing posteriorly was made; the flaps of integument and pericranium were raised and an inch trephine applied so that the center-pin was fixed on the line of what I had determined to be the course of the fissure of Rolando, and about half an inch inferiorly to the sagittal suture. The crown of the instrument was intended to embrace within its limits that portion of the skull immediately over the superior parts of the ascending frontal and ascending parietal convolutions. The button of bone was removed and the dura mater, arachnoid, and pia mater were found to be adherent to each other. While dissecting them apart a profuse hæmorrhage started from the anterior border of the wound which could not be arrested until half an inch more of the skull was removed with the rongeur. An artery was then tied and the hæmorrhage immediately stopped. The surface of the brain was then cleansed of blood and the *débris* of bone, when it was found that a bluish membrane protruded, very much resembling in appearance the longitudinal sinus. Renewed examination showed that it could not be this vessel, and it was at once punctured with a sharp-pointed bistoury. Immediately a stream of serous fluid free from odor spurted out as if from a syringe to a distance of two or three feet, and continued to flow for about ten minutes with diminished force. The wound in the membranes was enlarged to the extent of half an inch and a probe was introduced; it could be passed downward and forward for about two inches without meeting with an obstruction. At this time the patient was in a state approaching collapse, and whisky was administered hypodermically. In a minute or so the pulse became better.

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* The Principal Fissures and Convolutions of the Cerebrum. *Lancet*, 1884.

As the fluid still continued to flow from the opening in the skull and brain, I determined to introduce a drainage-tube. At once the fluid began to flow more freely. The tube was introduced along the line of the fissure of Rolando and passed in for three inches without meeting with obstruction. The button of bone was not replaced, but the wound was closed around the drainage-tube, which was left in place and through which fluid still continued to flow. Antiseptic dressings were applied and the patient put to bed. I may state that antiseptic measures were adopted throughout the whole course of the operation.

Soon after being put to bed the patient had a severe chill, which was stopped by putting bags of hot water to the body.

On emerging from the state of anæsthesia the patient was noisy and excited and complained of some pain in the head. A quarter of a grain of morphine was given hypodermically, and sleep ensued almost immediately; 9 P. M., patient still asleep, temperature 98·4°, pulse 120; profuse watery discharge from the drainage-tube, dressings being completely saturated; 12 P. M., patient still asleep; urine drawn off by catheter.

July 24th, 6 A. M.—Temperature 99·4°, pulse 164; milk and whisky administered; passed urine voluntarily; was quiet, talked rationally, although occasionally she made slight attempts to remove the dressings from her head; 8.45 A. M., temperature 99·8°, pulse 118. The dressings, being saturated with a watery discharge which still continued to flow, were removed and the brain cavity irrigated through the drainage-tube with a solution of corrosive sublimate (1 to 4,000). New dressings somewhat lighter in character were applied; one sixth of a grain of morphine administered hypodermically; 12 M., dressings changed, still saturated with the exudation from the drainage-tube; temperature 99°; 6 P. M., four grains of acetanilide to be repeated every four hours; 9.30 P. M., temperature 101°, pulse 132.

July 25th, 1.20 A. M.—Temperature 99·4°, pulse 120; 4.20 A. M., temperature 100·6°, pulse 130, vomited; 6.45 A. M., temperature 101·2°, pulse 142; digitalis normal liquor two minims, two ounces of whisky every two hours; 9 A. M., temperature 104°, pulse 150, body sponged with cold water, temperature falling almost immediately to 103°; 1.15 P. M., temperature 102·6°, pulse 144; the drainage-tube becoming closed, it was removed and a new one put in; one fourth of a grain of morphine administered hypodermically; 4 P. M., temperature 104°, pulse 156; patient quiet but easily aroused into activity, giving rational answers when spoken to; 5.45 P. M., temperature 102·8°, pulse 154; one eighth of a grain of morphine at 5 P. M.; acetanilide four grains, has been continued every four hours; 8 P. M., temperature 104·6°, pulse 160; 10 P. M., temperature 104·2°, pulse 150; 12 M., temperature 103°, pulse 140; one one-hundredth of a grain of digitaline hypodermically, to be repeated every two hours.

July 26th, 2 A. M.—Temperature 102·8°, pulse 156; 4 A. M., temperature 103°, pulse 156; one fourth of a grain of sulphate of morphine hypodermically; has been very restless all night; answers rationally when spoken to; asked to see her father and mother; 7.15 A. M., temperature 103·2°, pulse 156; 11 A. M., temperature 103·4°, pulse 156; one ounce of magnesia sulph.; bowels moved at 11 A. M. At 12 M., febricide pill given; 1 P. M., temperature 103·2°, pulse 156; 3 P. M., temperature 105·2°, pulse 156; ice kept to head; Dover's powder, six grains; 4.15 P. M., temperature 103·6°, pulse 168; 7 P. M., temperature 103·4°, pulse 154. Another febricide pill was given, and the body sponged with cold water; 8.15 P. M., temperature 101·4°, pulse 154; 11 P. M., temperature 102·8°, pulse 150; one sixth of a grain of sulphate of morphine at 12 P. M., hypodermically.

July 27th, 1 A. M.—Temperature 102°, pulse 138; 3 A. M., temperature 102·4°, pulse 150; 7 A. M., temperature 103°, pulse 156; rested very well during the night; 9 A. M., temperature 102·8°, pulse 154; 11 A. M., sponged with ice-water, the temperature falling almost immediately to 100·8°, but rising at 12.45 P. M. to 102·4°, pulse 154; 1 P. M., temperature 103°, pulse 158; 3 P. M., temperature 102·4°, pulse 148; has been in light stupor for the last twelve hours, from which she can be roused without much difficulty and answers rationally; 5 P. M., temperature 102·2°, pulse 144; 9.25 P. M., temperature 103°, pulse 146; very little discharge from the drainage-tube; probe passed entirely through it in order to ascertain whether it was open or not.

July 28th, 1.45 A. M.—Temperature 103·8°, pulse 156; 2.45 A. M., temperature 103·2°, pulse 154; 9 A. M., has been quiet all night, breathing regularly with but little acceleration; temperature 103·4°, pulse 160; 11.30 A. M., temperature 103·6°, pulse 168. From this time on the respirations became slower and irregular; the temperature remained at 104°, the pulse not falling below 160. Stimulants, which had been systematically administered, together with antifebrile remedies, such as acetanilide and febricide, no longer produced the slightest effect. It was evident she was sinking, and at times there was the Cheyne-Stokes respiration. Further medication was discontinued, as she was unable to swallow and was in a state of stupor. She remained in this condition through the afternoon of the 28th, and at 7 P. M. died, the sixth day after the operation.

The post-mortem examination was made on the following morning, the 29th, at 11 o'clock. The wound in the scalp had united by first intention, except at the point where the drainage-tube had been inserted. On removing the calvaria, adhesions were found to exist between the right frontal lobe and frontal bone, also thickening of the dura mater throughout the course of the longitudinal sinus extending for about an inch on each side. Nearly the whole of the right parietal lobe and upper and posterior part of the frontal lobe seemed to have disappeared, for the membranes were greatly collapsed. The operation appeared to have touched the superior apex of the depressed portion. There was slight congestion of the membranes of the left side, especially those covering the frontal lobe. The brain was removed and the membranes were opened; these were found thickened throughout their whole extent and were strongly adherent to the base of the skull and to each other, it being impossible to separate the dura mater from the membranes beneath. All these adhesions were evidently old. An incision was now made through the vertical axis of the membranes and a cyst was found coexistent with nearly the whole right parietal lobe, the convolutions of which portion had entirely disappeared. The ascending frontal convolution, except its inferior and horizontal portion, was also absent; otherwise the frontal lobe was in good condition. The anterior portion of the occipital lobe was also implicated, so that a portion of the middle and inferior convolutions had disappeared.

Inferiorly it was ascertained that the cyst involved likewise the temporal lobe, and that the superior temporal convolution and about one half of the middle temporal convolution were absent.

Further examination showed that not a vestige of the island of Reil remained, that the anterior and external third of the caudate nucleus and a like portion of the lenticular nucleus of the corpus striatum were absent, and that the internal capsule was greatly atrophied. Continuing the dissection, it was discovered that the cyst was separated from the lateral ventricle anteriorly by a very thin lamina of cerebral tissue.

A second cyst of about the size of a large almond and involving the inferior temporal convolution was also found to exist. There were no cerebritis, no recent meningitis, and no hæmorrhage. The extent of the lesion is seen in the woodcut (Fig. 3), where it is indicated by the dotted line *a*. The temporal cyst is shown in profile at *b*.

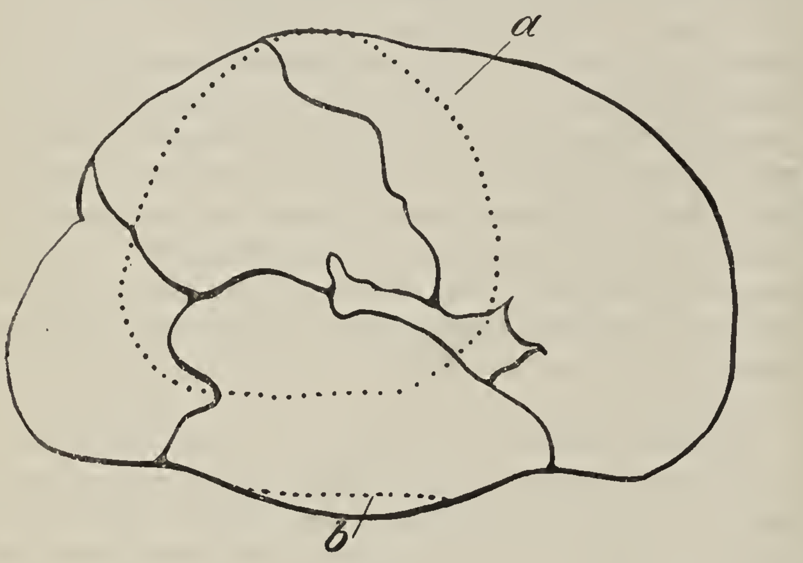

Fig. 3.

It is thus seen that the diagnosis was substantially correct, though the lesion was much more extensive than there was any reason to suspect. Probably the original disease was an extensive meningitis, the arachnoid being especially implicated in the regions where the cysts were discovered. It is certainly remarkable that life should persist for nearly nineteen years under such a condition of brain disease. The fact of the destruction of the island of Reil is interesting in connection with the circumstances that it was on the right side and that there had been little speech disturbance. In other respects it is seen that the case is strikingly corroborative of the doctrine of cerebral localization as laid down by Nothnagel, Ferrier, Exner, and others.

I should have mentioned that the contour of the right hemisphere indicated this half of the brain to be decidedly smaller than the corresponding left half.

In undertaking this operation I had no idea of limiting its extent by any other consideration than that of the requirements of the occasion. I was very confident that the morbid growth was not limited to the superior parts of the ascending frontal and ascending parietal convolutions, and I intended to remove, either by further trephining or by the rongeur, as much of the skull as might be requisite. The facts, however, that the growth was cystic and that the fluid was readily evacuated obviated the necessity of more extensive operative procedure.

In regard to the cause of death I have no very satisfactory explanation to offer. The patient had fully recovered from the shock of the operation, there was no recent inflammatory action anywhere in the brain or its membranes, and the wound was in a perfectly healthy condition, the scalp having united, as I have said, throughout nearly its whole extent. An examination of the lungs and kidneys was not permitted, but there is no reason for thinking that these organs were in a state of disease.

LOOK BEYOND THE NOSE.*

By SOLOMON SOLIS-COHEN, M. D.,

PHILADELPHIA.

The benefits of an enlightened and liberal specialism are so generally admitted that it is unnecessary to recount them. But while liberal and enlightened specialism has contributed and will continue to contribute in largest measure to the progress of medicine, there is a danger, a pressing and increasing danger, that narrow and unenlightened specialism will offer hindrance equally great.

There is a tendency, more especially upon the part of those who have had insufficient experience in general medicine—or perhaps not any—before undertaking exclusive practice, to magnify the importance of local lesions coincident with certain general disorders of the system, or with local disease in some other region. While this tendency is perhaps most strikingly manifested by some others, yet nowhere is it more pernicious than in the domain of rhinology. To discuss particulars rather than generalities, and selecting a single particular as type in order to save time—especially have malformations and enlargements of nasal tissues been advanced as the sole and efficient cause of persistent and distressing headaches.

That in some cases this is true the experience of competent observers places beyond question, but that it is true to anything like the extent one would infer from many contributions to the literature of the subject, my own experience at least leads me to doubt. In illustration of this fact I desire to report three cases, typical of many:

Case 1.—Mrs. R., thirty-two years of age, consulted me in the hope of obtaining relief from a headache, which she said was dependent upon nasal trouble, and from which she had suffered more or less since she was twelve years of age, but more particularly during the last decade. She had been for something like two years—though latterly quite irregular in her visits—under the care of a specialist of ability, who had told her that her headache was due to trouble in the nasal cavities, although of what exact nature she had not been informed; and she had undergone several operations, two of them under ether. She did not know what had been done. During treatment antipyrine had been prescribed for temporary relief of paroxysms of headache.

Examination of the nose showed a badly deviated septum in contact with the middle turbinated body on the left side, a polyp attached to the middle turbinated body on the right side, with a general condition of chronic inflammation and thickening of the mucous membrane. The pharyngeal tissues were also thickened and inflamed. As a matter of course, the polyp was removed from the right nasal passage and the point of implantation cauterized. This, however, while it relieved some distress in breathing, had no effect on the headache, which was as persistent and as painful as ever. The nose was kept clean by an alkaline detergent wash, and as, notwithstanding the deviation of the septum, sufficient air was obtained for purposes of respiration, no further operative interference was undertaken, while the attempt was made to determine the course and cause of the headache independently of the nasal conditions. It was ascertained that there would be two or three days comparatively free from headache, and then for two or three days more a succession of paroxysms.

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* Read before the American Laryngological Association at its twelfth annual congress.

Studying these paroxysms, the fact was developed that they occurred principally in the afternoon—that is to say, while beginning in the morning, severity was not marked until about twelve o'clock, and the maximum of pain was reached at six o'clock in the evening, after which the pain gradually faded away. This suggested a possible malarial origin, and a history of attacks of intermittent fever, once previous to the first appearance of the headache and twice subsequently, was elicited. No enlargement of the spleen or liver was detected; heart and lungs were normal; nothing of pathological import was found in the urine. Unfortunately, the blood was not examined for plasmodia. The patient said she could not take quinine on account of the ringing in the ears soon produced; nevertheless, quinine hydrobromide was administered in doses of fifteen grains daily, divided into three portions, of which the first was taken upon getting up in the morning, about seven o'clock, the next at ten, and the next at twelve. In addition, five grains of salicin with two of ergotin were taken at 6 P. M. and again at bedtime. The first day there was a slight headache about four o'clock in the afternoon which lasted but a short time. The same thing occurred the following day, and the daily dose of the quinine salt was increased to twenty grains. Since that there has been increasing freedom and finally no return of headache for a period of more than a month. Medication has been modified accordingly. The patient states that in twenty years she had not previously been free from headache for a week. This is an exaggeration I believe, but it may be accepted as a fact that, at least, she is very much better now than at any time during that period, and that the improvement is due to constitutional and not to local treatment.

The nasal septum remains deviated and in contact with the middle turbinated body.

Case II.—Mr. Y., aged twenty-one, has a deviated and thickened septum in contact with the middle turbinated bodies on both sides, a posterior enlargement of the lower turbinated body of the right side, and also engorgement of the erectile tissue upon each side of the bony septum posteriorly. He has no reflex troubles of any kind, and says he does not know what headache means.

Case III.—Miss X., aged twenty-seven, has had excruciating headaches and occasional periods of insomnia for years, and has been under the treatment of a number of practitioners specialists in various lines.

The first physician whom she consulted—a woman—attributed her troubles to the uterus, and she was for three months an inmate of a sanitarium, undergoing special treatment. Her next adviser scouted the uterine theory and found a sufficient cause for her distress in refractive errors of the eyes, which he corrected. The third believed it to be entirely nervous, curable by electricity, which he applies indeed to the treatment of all diseases, and she says that he benefited her more than either of the others. The fourth, fifth, and sixth were homœopathists, the seventh a gynæcologist, and I had the honor of being the eighth. At this time the patient was under the idea that the nose was the *fons et origo mali*.

I found deviation of the septum, thickening of the nasal mucous membrane, and engorgement of the glandular tissues of the vault of the pharynx. In order to determine whether the nose was really the source of this patient's long-continued distress, I treated it, and succeeded in relieving what slight nasal symptoms existed and in so far rectifying the deviation of the septum as to obviate any contact of tissues; but neither the headache nor the insomnia was benefited in the slightest degree. The patient was hysterical, there could be no question of that; but careful inquiry into her general health showed a condition of feeble digestion and atony of the intestine associated with gastro-intestinal catarrh and a consequent lithæmia. Treatment was directed to this condition, with improvement, but not absolute cure. Becoming dissatisfied with her slow progress, the patient consulted a ninth adviser—a second oculist, who, I know, had never practiced medicine. He found that the previous correction had been all wrong, and consequently had aggravated instead of relieving her headaches and general nervous mal-condition, while his correction was bound at once to restore her to robust health and freedom from pain. That it did not do so is evidenced by her return to me some two months later, when the constitutional treatment was resumed. The patient was not well, but very much improved when I last saw her, and I have no doubt that proper regulation of diet and of daily life carried out faithfully would eventually relieve whatever actual physical pain is present.

These cases are cited simply as instances of what must be common in the practice of every physician who is competent to examine the nose, but also mindful of the facts not only that there are other organs in the human body, but that there is, too, such an entity as a whole organism, not to be looked upon merely as a thing of shreds and patches.

There are conditions of headache and other nervous disturbances, including asthma, dependent doubtless upon nasal lesions; but men, at least those who, like myself, are in active general practice, meet with a far greater number of cases of these conditions in which there is no nasal abnormity, or in which nasal abnormities are not causative but merely coincident. Furthermore, every fellow of this association must have seen quite a large number of cases—a large majority indeed—of nasal lesions in which none of these nervous phenomena were manifested, as well as many cases in which nasal symptoms themselves were dependent upon systemic causes. The conclusion draws itself; there is no need for elaboration. It is simply this: Let us examine the nose as well as the other organs of our patients, either as a matter of routine or when special indications present; let us treat *secundum artem* whatever nasal condition demands treatment; but let us not forget also to look beyond the nose.

A CASE OF MYXOMA OF THE NASO-PHARYNX IN A CHILD SIX YEARS OLD.*

By ALEXANDER W. MacCOY, M. D.,
PHILADELPHIA.

The recital of the history of the following case of myxomatous tumor of the naso-pharynx is given because of the rarity of such growths in this region, and also because the extreme youth of the subject adds even more to the rarity. My fellow-members have probably had similar cases in *their* experience, but I am not aware that many such pathological conditions have been put on record by them.

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* Read before the American Laryngological Association at its twelfth annual congress.

In a rather extended experience in private and hospital practice, this is the first case of the kind which I have seen in so young a child. The occurrence of myxomatous tumors in the *nasal* passages of children is rare, even making due allowance not only for the cases already reported, but also for those not in print, of which we have verbal knowledge. In my own experience I can recall but one case of nasal polypus in a child, and this occurred in an infant under one year of age.

It was seen in the right nostril upon anterior inspection, blocking the respiratory tract, and was removed by the Jarvis snare. This case came under observation in 1883, and during the seven years which have elapsed since I have not seen a similar case. While we seldom see myxomatous development in the nasal chambers of children, the dictum enunciated by Lennox Browne that "polypi may occur at any age" is undoubtedly true. This statement of Browne's should, however, be qualified by acceptance of the doctrine that all myxomatous degeneration or development is dependent upon a prior inflammation in the regions where it occurs; and that the inflammation must have been of some duration. The rarity of these myxomatous developments in childhood can be explained by the fact that there are few children who have had chronic colds of sufficient duration to develop the pathological changes necessary for the growth of polypi. This is not only dependent upon the fewness of years, but also upon the ability of youth to resist true hypertrophic changes. What has been said in explanation of the rarity of myxomatous changes in childhood in the *nasal* chambers applies with even more force to similar changes in the *naso-pharyngeal* region. Myxomatous development in the naso-pharynx is still more rarely noticed in children—if we accept the consensus of opinion as expressed in literature.

The following case came under my notice in February, 1890. The subject of this history was a patient of Dr. Kennedy, of Clifton Heights, who kindly asked me to examine the case with him.

Dr. Kennedy had already clearly made out the tumor, and came for an opinion as to its nature, and also as to measures for its removal. The notes of this case up to the date of removal have been kindly furnished to me by Dr. Kennedy, and are as follows:

Annie I., aged six years, had always enjoyed good health until September, 1888, at which time she contracted a heavy cold by the practice of wetting her hair. This acute coryza developed into a chronic rhinitis. Complete occlusion of the nostrils did not take place until March, 1889, from which time she has not been able to breathe through the nostrils. Through June and July, 1889, she became greatly emaciated; her mouth was kept wide open. There was rapid respiration and loss of appetite. The physician and family were fearful that she would die. She quickly responded to proper remedies and regained her general health. An examination revealed complete occlusion of both nostrils. From the nostrils poured a muco-purulent discharge which filled the nasal chambers. Mouth-breathing was absolutely necessary for respiration. The voice was flat and thick. The expression of the face was quite similar to that seen in cases of hypertrophy of the pharyngeal tonsil.

Examination by the rhinoscopic mirror revealed a large, pale-pinkish mass completely filling up the naso-pharyngeal region. The growth did not show below the soft palate, but could readily be seen upon elevating the palate. There was considerable discharge from the naso-pharyngeal space; not much redness of the fauces, and only a moderate bulging of the soft palate. Examination with the finger showed a large, elastic tumor; the finger could, with some difficulty, be made to pass around the growth. It was only slightly movable and appeared to be firmer than a myxomatous tumor, but not so dense as a fibroid. An attachment (of about half an inch in diameter) was clearly made out, springing from the free surface of the vomer and confined to the lower part of it.

On February 28, 1890, the tumor was quickly and successfully removed (after the application of cocaine and etherization) by the galvano-cautery snare. The long loop of wire was passed through the nostril and gradually insinuated along the upper surface of the soft palate until it could be felt by the finger in the naso-pharynx, when it was widened and carried back to the posterior wall of the pharynx and pushed up by the finger until it could go no farther; the loop was then reeled in, the finger acting as a guide to the base of the growth. After the wire had been firmly tightened, the current was turned on and the pedicle cut through. The tumor failed to "materialize" in the fauces, and the finger had to be inserted into the naso-pharyngeal space and hooked around it, when the tumor fell out of the open mouth upon the floor. There was but a trifling hæmorrhage.

Afterward the child had no reaction, and at once the functions of the nasal chambers were completely restored. Since the date of removal the child has enjoyed perfect health. There has been no recurrence.

The tumor (which I offer for your inspection) weighed six drachms and was pyriform in shape. The report of the microscopic examination is as follows:

"Dear Dr. MacCoy: Dr. Packard has made sections of the tumor which you removed from the posterior nares of a child. Its pedicle is composed of loose-meshed fibrous tissue, while the body of the growth from without inward is made up of an envelope of epithelium, a layer of soft fibrous tissue interspersed with elastic tissue, and a center composed of myxomatous tissue through which are scattered numerous round lymphoid cells. The tumor bears the general characteristics of a submucous myxoma. Yours truly, G. W. Schweinitz."

I have also had prepared a micro-photograph of the sections.

A CASE OF
FIBROSARCOMA OF THE RIGHT NASAL FOSSA,
WITH UNUSUAL CLINICAL HISTORY.*

By CHARLES H. KNIGHT, M.D.

The following report is robbed of much of its value by the absence of post-mortem observations, yet the occurrence of several remarkable phenomena as the case progressed seem to make it worthy of more complete record. The specimen herewith exhibited occupied the naso-pharynx, but is no doubt a portion only of a neoplasm which had its origin within the nasal cavity. The patient came to the Throat Department of the Manhattan Eye and Ear Hospital in September, 1886, giving the following history:

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* Read before the American Laryngological Association at its twelfth annual congress.

P. D., aged forty-two, baker, married. Family history good. Patient has had no illness since childhood. About twelve years ago he received a violent blow on the bridge of the nose. The precise extent of the injury sustained is not known. For the last two years he has had more or less nasal obstruction and catarrhal discharge. The sense of smell has become impaired, and he has been annoyed by frequent sneezing and pretty constant frontal headache. His friends have noticed a marked change in his disposition. He has become irritable, surly, indisposed to work, and, contrary to his previous habit, has often taken liquor to excess. He has had no hæmorrhages until two months ago, when he expelled from the right anterior naris masses of bloody tissue, and at about the same time hawked out from the posterior nares a fleshy mass as large as a robin's egg. Two weeks ago the right eye became almost closed from an œdematous swelling of the lids, and there was considerable swelling and sensitiveness in the right infra-orbital region.

On examination, the right naris was found completely occluded by a soft, vascular, and very sensitive mass, somewhat resembling an old myxoma. It extended quite to the margin of the nostril, and with a rhinoscopic mirror a growth as large as a hickory-nut could be seen projecting into the naso-pharynx. No glandular enlargements could be discovered and there was no cachexia. An attempt to surround the growth with a loop of wire caused profuse hæmorrhage and extreme pain, upon which cocaine had no effect. A large piece was finally removed from the anterior portion of the tumor by means of a cold wire snare. The growth reproduced itself with astonishing rapidity, and when examined three days later it had almost regained its original dimensions. Under the microscope the appearances characteristic of fibrosarcoma were seen.

The patient then went to the New York Hospital, where Dr. Weir performed Chassaignac's operation (November 15th). An incision was made across the nose at the level of the eyes downward and along the right labio-nasal junction to the left ala. The nasal bones were sawed through and the nose tilted to the left so as to expose the tumor. A quantity of soft growth was removed by means of the curette and the wire loop, when it was found that the neoplasm invaded the ethmoidal and sphenoidal cells, and that it could not safely be further followed. The cavity was packed with iodoform gauze after closing the external wound with sutures. The patient made a good recovery from the operation.*

Six weeks afterward (December 27th) he reappeared at the Manhattan Eye and Ear Hospital with his nostril blocked by a recurrence of the neoplasm, and complaining of amblyopia and impaired vision in his right eye. There was marked divergent strabismus. In the course of a week (January 11th) the sight in that eye was completely lost. He could not distinguish light from darkness. At this time an ophthalmoscopic examination by Dr. Roosa, Dr. Emerson, and others showed no change in the fundus. A week later (January 18th) the left eye began to lose its power. Still the ophthalmoscope discovered nothing abnormal. The process went on until in two weeks (February 1st) he became totally blind. There was no impairment of hearing and no muscular paralysis. The tumor then projected from the anterior naris, and the line of Weir's incision was breaking down. It filled the naso-pharynx to such an extent as to interfere seriously with speech and deglutition. Several attacks of wild delirium had occurred in which the patient had attempted to jump from the window. No rise of temperature was noted. Two weeks later (February 14th) the right eye and side of the face had disappeared beneath a fungoid mass of friable, vascular tissue, from which there was constant oozing of bloody serum. The fœtor was almost intolerable. The tumor had extended backward, so that speech was unintelligible and dysphagia was extreme. But little nourishment could be taken, and the patient had become much emaciated. He had various mental hallucinations and was at times violent. Most of the time he was in a condition of stupor.

Just a week from the time of the last visit (February 21st), about three months from the date of the operation and less than five months after he first came under observation, I received an urgent summons, as the patient was said to be bleeding to death. On reaching him, I found a most ghastly spectacle. It seems that during an attack of delirium a short time before he had torn off a portion of the tumor from his face, and had also passed his fingers into his mouth and dragged out an irregular mass, which was probably that part of the tumor filling the naso-pharynx. The rush of blood was so profuse as almost to suffocate him, and in a few moments he was thought to be dead. On my arrival, the bleeding had ceased, but the patient and the bed on which he lay were covered with blood. His breathing was rapid and shallow, his pulse was hardly perceptible, and he was in a comatose condition, from which he could not be roused. Death occurred in about five hours. An autopsy was not permitted.

It would have been interesting to determine, if possible, the origin and distribution of this neoplasm. The early period at which indications of invasion of the cranial cavity appeared would suggest that the growth probably began in the sphenoidal or ethmoidal cells, thence extending both upward and downward. Such being the case, no operative interference could have been very promising, yet resection of the jaw would have given better access to the region affected, and might have permitted a more radical removal of the growth. On this point Weir thus expresses himself: "Irrespective of the cerebral extension, it would have been better in this case to do the usual partial resection of the jaw, according to Maisonneuve's suggestion, as this would not only have allowed a more thorough extirpation of the growth, but would have enabled one to detect and to treat early any recurrence."

In the words of Butlin, as found in his work on *The Operative Surgery of Malignant Disease*, "it is almost always necessary to remove at the same time some of the surrounding tissues—in some instances a very wide area—in order to prevent a local recurrence of the disease." In cases of this class it is often difficult to determine beforehand the exact origin and situation of the neoplasm. Hence it is doubly important, if any operation be undertaken, to select one which will give us the most ample opportunity for thorough inspection of the region. Partial and palliative operations should be discouraged, except in so far as they may be demanded for the removal of obstruction to swallowing or breathing, or for the arrest of hæmorrhage.

It is doubtless true that malignant tumors of the naso-pharynx and those of the nasal fossæ do not belong in pre cisely the same category; the former, being more accessible, may therefore be more completely engaged in the loop of an écraseur, or may come within the scope of less formidable procedures, such as electrolysis. But a large proportion of these cases come to us when the limitations of the neoplasm can no longer be clearly defined. We can not with certainty determine its attachments. The principle suggested by Butlin seems to apply as strongly to malignant disease here as elsewhere. If extirpation be attempted, we must be sure that *more* than the diseased tissue is included, in order to insure a successful result. We hear of many instances in which an operation was begun and soon abandoned because the growth was found to have passed the line of safety. Recent literature gives us contradictory opinions as to the best method of attacking cases of this kind. At the close of the report of a case of naso-pharyngeal carcinoma in the *New York Medical Journal* for March 8, 1890, Dr. Sidney Allan Fox recommends "thorough removal, from time to time, of the growth with the post-nasal cutting forceps and wire snare." He maintains that in this way the removal may be radical (?), and, under cocaine, almost devoid of pain. He objects to the various capital operations, on the ground that they are dangerous and cause more or less mutilation.

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* *N. Y. Med. Jour.*, March 12, 1889; also Case XXXV in Bosworth on *Diseases of the Nose and Throat*, p. 444.

On the other hand, in a memoir on The Diagnosis and Treatment of Malignant Tumors of the Nasal Fossæ, in the *Annales des mal. du larynx*, etc., March, 1890, and translated in the May number of the *Journal of Laryngology and Rhinology*, Dr. A. F. Plicque takes a very decided stand as to the use of forceps for ablation and the wire snare. In speaking of pedunculated malignant tumors, he says that they should never be removed in this manner, but always by an external incision. The latter opinion would seem to commend itself to our judgment. Many cases are on record in which the surgeon has endeavored to satisfy himself with milder measures and has finally been compelled to resort to the more radical method. Meanwhile valuable time has been lost, and the patient may be in poor condition to withstand the shock of the major operation. Moreover, the growth has been extending, thus diminishing the probability of thorough extirpation, and increasing that of local recurrence and generalization.

The conclusion seems, therefore, to be forced upon us that when we have determined to attempt the removal of a malignant tumor of the nose or naso-pharynx, *the extent or implantation of which is in doubt*, we should approach it by an external incision, removing enough of the bony structures to permit us to trace the neoplasm to its origin.

In connection with the case which has been reported, another question of interest presents itself. Did the traumatism received ten years before the beginning of symptoms bear a causative relation to subsequent developments? We are familiar with the influence of prolonged irritation in the ætiology of certain forms of malignant disease, as epithelioma of the lip and chimney-sweep's cancer, and it is the general custom to search for a history of injury in cases of carcinoma. Watson, in his work on *Diseases of the Nose*, page 282, says that recurring nasal fibromata show a tendency to assume a sarcomatous type, and Bosworth (*Diseases of the Nose and Throat*, page 445) reports a case in which sarcoma developed after "polypi had been operated on rather harshly by means of forceps."

A similar case has been reported by Heymann.* A patient who had several times been operated on for nasal polyp finally appeared with a large intranasal tumor, which, on extirpation, proved to be a melanotic sarcoma, at many points undergoing carcinomatous degeneration. Cases of spontaneous transformation are rare. The observations of Michel, Hopman, and Schaeffer lack certain essentials. The only authentic case on record seems to be one reported by Bayer,† which was verified by microscopical examination and proved to be a villiform carcinoma implanted upon a simple mucous polyp. In looking over the forty-one cases collected by Bosworth, we find no light thrown upon this question. Yet it is one which from a medico-legal standpoint might be of some importance. For example, in my own case the patient himself and his friends were convinced that his nasal trouble was the direct consequence of a blow, and it was seriously proposed to have his assailant arrested. There is, however, a marked disproportion between the number of cases of malignant disease of the nasal fossæ and of injury to the nose. Hundreds of cases of nasal myxomata, requiring many operations and involving no small degree of traumatism, come yearly to our clinics, yet not more than a dozen cases can be found in which malignant degeneration of a benign growth can be suspected. It would seem, therefore, that we can not justly attribute to traumatism a causative agency; to repeat an opinion elsewhere expressed—it alone is not capable of creating malignancy.

A CASE OF
RABIES FROM THE BITE OF A SKUNK.

By N. S. JARVIS, M. D.,
FIRST LIEUTENANT AND ASSISTANT SURGEON, U. S. ARMY,
FORT VERDE, ARIZONA.

(*Published by authority of the Surgeon-General.*)

The following case will go further to encourage the tradition that the bite of the skunk is productive of rabies. Whether the term "rabies mephitica," applied by Janeway (*Med. Record*, March, 1875), is scientifically correct or not I can not say, but I am compelled to admit, from my observation of this case, that one would naturally adopt the term "rabies" were he familiar with the clinical phenomena of that terrible malady.

On the 10th of May, 1890, Dr. William Stephenson, at that time post surgeon at Fort Verde, was called upon to attend Charles Morris, a settler living in the vicinity of the post, who stated that the night previous he had been bitten on the nose by a skunk while asleep on the ground some miles down the valley. The wound was located at the junction of the osseous and cartilaginous portions of the nose, and the impressions of the animal's sharp teeth were distinct.

Dr. Stephenson, I am told, carefully washed the wound and injected into the tissues a saturated solution of potassium permanganate. On the morning of June 16th I was asked to visit

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* *Rev. mens. de laryngologie*, etc., No. 1, 1888, p. 24.

† *Rev. mens. de laryngologie*, etc., January, 1887, p. 17.

Mr. Morris, who had come from his ranch to the post trader's store and awaited my arrival there. I called at 9 A. M. and found the patient impatiently walking the floor and apparently in great alarm; he had been seized with peculiar tingling pains originating from the wound the day before, and had slept none during the entire night. The wound had healed entirely some time since, leaving a bluish-colored cicatrix. The peculiar sensations complained of starting from this scar he described as shooting over the entire scalp. He also stated that he could barely "catch his breath," and experienced a sense of weight in the epigastric region, with difficulty of swallowing.

Morris was a robust man, forty-nine years of age, had always been healthy, but had, I understand, been considerable of a drinker for some years. Nearly every family in these frontier settlements is supplied with what they term a "doctor book," such as Gunn's *Family Medicine*, Foote's *Household Medicine*, etc. Thinking that Morris had been reading about the symptoms of hydrophobia and was suffering from the effects of his imagination, I tried to divert his mind by assuring him of the absurdity of the idea, and, to further quiet him, administered potassium bromide every hour.

At 1.30 P. M. I called, and the patient stated that the tingling sensations were not so frequent, but the abdominal pain and gasping were still prominent. He was unable to swallow water except in very small quantities. His pulse was slow and full, the skin clammy and covered with perspiration. Irritation of the wound on the nose immediately produced irregular convulsive movements of the whole frame. The abdominal pain seemed to be produced by spasmodic contractions of the diaphragm; the breathing was short and jerky.

At this time I administered a hypodermic injection of eight minims of Magendie's solution, and was surprised to see the entire absence of its usual soothing effect. I directed that the patient be kept in a darkened room and as quiet as possible. At 8.30 P. M. I found no abatement in the symptoms; the apparent attempts to vomit some irritating substance were frequent and weakening. He was utterly unable to swallow liquid or solid food, yet complained of extreme thirst and hunger. I then administered half a grain of sulphate of morphine and one sixtieth of a grain of sulphate of atropine by hypodermic injection. The patient rested quietly for about two hours, but on awakening at the expiration of that time the symptoms returned in all their intensity. He would frequently jump suddenly from the bed and rush toward the door as if to inhale fresh air. The occurrence of the shooting pain would elicit a shudder from his entire frame as if he were suddenly subjected to a chill. I again administered an injection of morphine and atropine, and, leaving some to be given during the night should his paroxysms continue, left the patient at 10.30 P. M., returning early the next morning (June 17th). I now became thoroughly alarmed at the man's condition. Attempts to swallow were futile; the liquid, regurgitating into the nostrils and entering the larynx, aggravated the attacks of dyspnœa. Saliva flowed from the mouth and gathered in foamy masses on the mustache and on the cheeks. The pulse was still slow, but was not so full and strong as on the previous day. The spasmodic contractions of the diaphragm were frequent and painful and the patient was uncontrollable in his restlessness.

I then attempted to relieve the symptoms by inhalations of amyl nitrite, twenty-five minims being placed on a soft rag and applied to the nostrils. Although sufficient was used to affect all in the vicinity of the patient, the effect upon him was practically *nil*. Chloroform was administered with no effect except to alarmingly weaken him. Beef extract and brandy were administered by rectal injection and were well retained. The patient passed his urine several times during the previous day and on this morning, but had no evacuation from the bowels. Morphine sulphate and atropine were then administered in quantities sufficient to narcotize a healthy man, but with little or no result. The patient's struggles for breath and attempts to vomit were extremely pitiful; he assumed every position, at times walking on all fours, groveling on the floor and rushing from one part of the building to another. At the same time the abdominal contractions and gasping attempts to fill his lungs produced a sound similar to the croupy cry of a child. It occurred to me that this was the so-called "bark" of a hydrophobic victim, which the newpaper descriptions usually contain. In order to restrain the patient, I was compelled to handcuff him and tie his shoulders and feet by stout rope to the cot on which he was lying. In fact, he requested it himself, possibly fearing lest he should do some injury to those around him. At about 1 P. M. he expelled a large quantity of blood from his throat, some of which entered his trachea and produced the most painful struggles. The slightest touch or motion would give rise to the peculiar shuddering movements of the body. From this time on the pulse began to fail, and the poor wretch expired suddenly at 5.30 P. M., evidently by sudden paralysis of the muscles of respiration. An autopsy was not obtainable. Except toward the last two hours, his intellect was clear.

I leave it to those who have witnessed cases of hydrophobia to say whether one would be justified in applying that term in this instance; I had never observed a case before, and my knowledge of the agonizing malady is based upon a perusal of the literature of the subject. The fact that two men in this vicinity have died with similar symptoms after the bite of a skunk within the last ten years would certainly justify me in believing that the bite of this animal is at times poisonous, if not productive of rabies. The skunk escaped after inflicting the wound in this case.

I notice that Dr. Sears, at the recent convention of the American Medical Association, stated that the bite of the polecat frequently produced rabies (*Med. Record*, June 7, 1890, p. 664). See also article by Acting Assistant Surgeon J. A. Wolf, *American Journal of the Medical Sciences*, October, 1875.

SUPPLEMENTAL REPORT ON
CARTILAGINOUS TUMORS OF THE LARYNX AND WARTY GROWTHS IN THE NOSE.*

By E. FLETCHER INGALS, A. M., M. D.,
CHICAGO.

At the meeting of the American Laryngological Association, held in Washington, September, 1888, I reported the case of a young man suffering from a cartilaginous tumor, just beneath the vocal cords, which grew from the lower portion of the thyreoid cartilage. This growth I had been treating by the local application of chromic acid in full strength.

At the time the growth seemed to have been practically cured, but the following month the patient again consulted me, when I found a slight thickening of the right half of the base of the tumor. I again cauterized the growth with chromic acid, and subsequently, on one or two occasions, similar applications were made, with the effect of completely destroying it. During the past year there has been no recurrence, and now the patient may fairly be pronounced cured. In this case the growth measured originally one centimetre in diameter by seven centimetres in thickness. Internal remedies and local applications of various kinds had done no good, and finally there seemed no way of removing it, excepting by laryngotomy, until I tried the plan of gradual destruction by chromic acid. Altogether twelve or thirteen applications of the acid were made, a mass of the fused acid about as large as a millet seed being used each time. Owing to the patient's business, intervals of from three weeks to several months intervened between the various cauterizations. At present the parts appear normal; even the mucous membrane shows no cicatrix, and the thickening has entirely disappeared. The acid seems to have caused absorption rather than destruction. Intense congestion followed each cauterization, but I never observed ulceration of the parts after the applications. However, I seldom saw the patient for several weeks after cauterization. From the final result in this case I can strongly urge a faithful and long-continued trial of this method of treatment in laryngeal growths which can not be thoroughly eradicated by forceps.

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* Read before the American Laryngological Association at its twelfth annual congress.

At the last meeting of this association I reported a case of warty growths in the nose which I had cauterized from time to time with chromic acid, nitric acid, nitrate of silver, or the galvano-cautery. I had hopes of curing the case by these agents, but the warts continued to return. For about two months after my report was written I either applied chromic acid or used the galvano-cautery about once a week for the destruction of all warty growths that appeared. On the 7th of August, 1889, I applied to the growth the tincture of thuja occidentalis and gave to the patient the same preparation, which he was directed to apply twice daily with a pledget of cotton, which was to remain for twenty minutes. At the same time he was told to take internally teaspoonful doses of the remedy three times each day. He made the local applications faithfully and for a few days took the medicine internally with considerable regularity, but afterward he limited the treatment to local applications. During the next ten weeks I saw the patient eight or ten times and made six or eight applications of chromic acid to small warts as they appeared. At the end of this time I find it noted in the record that there was no appearance of warty growths. The patient still used the thuja occidentalis locally, though not with great regularity. Subsequently the mucous membrane of that side had a tendency to become dry, for which it was treated from time to time with various remedies. About a month after the final disappearance of the warts the patient was given a spray of two grains of carbolic acid and two grains of camphor to the ounce of liquid albolene, which he used for a short time. It is now seven months since the last of the warty growths were destroyed and none have returned. What the influence of the thuja occidentalis has been upon this case it is impossible to say; but, from its time-honored reputation for curing warty growths and from the fact that previous remedies had failed, I think it fair to give it a portion of the credit, though doubtless the occasional use of chromic acid had something to do with the result; however, during the treatment it was very apparent that the growths did not reappear as quickly, and that they enlarged much more slowly after the thuja occidentalis had been in use a short time.

70 State Street.

UNILATERAL PARALYSIS OF THE LATERAL CRICO-ARYTÆNOID MUSCLE.

(LATERAL ADDUCTOR OF THE VOCAL CORD.)

*PECULIAR CASES.**

By E. FLETCHER INGALS, A. M., M. D.,

CHICAGO.

Although bilateral paralysis of the adductors of the vocal cords is a common affection, unilateral paralysis is not often met with excepting as the result of compression or injury of the recurrent nerve, as, for example, in aneurysms of the aorta or malignant disease of the œsophagus. The affection is, however, met with in rare instances of lead and arsenical poisoning, and it is sometimes observed as the result of exposure to cold. It is sometimes attributed to rheumatism or phthisis, and is occasionally seen as the result of accident or surgical wounds. When accompanied by paralysis of the same side of the tongue or palate it is of centric origin. Two cases which I wish to report, although following shortly after surgical operations in the mouth and naso-pharynx, appear to be of hysterical character, though one would seem to prove that an injury to the terminal extremities of one branch of the eighth pair may, through reflex influences, produce paralysis of distant muscles supplied by an entirely different branch of the same nerve, and the other would appear to indicate that, in the same way, paralysis may be produced in one of the distant muscles supplied by the pneumogastric branch of the eighth pair, while the injury causing it occurred to the terminal loops of one of the branches of the fifth pair.

In these cases the usual dysphonia was present and the sounds produced by coughing or sneezing were more or less altered. In neither were there evidences of hysteria or symptoms indicating constitutional disease. There was neither swelling nor congestion of the larynx in either case, and in neither was there any evidence of injury to the recurrent nerve. The first patient recovered after a few weeks of, mainly, constitutional treatment; the second had been treated by another physician for over two months before coming to me, and has now been under my care for about four weeks without perceptible improvement.

Case I.—Miss M. P., aged twenty-two, school-teacher. This patient told me that two weeks previously she had some teeth extracted, which caused her to faint, and that twenty-four hours later the voice was suddenly lost so that she could only speak in a whisper, but her voice had considerably improved. When she consulted me she spoke in a coarse whisper and complained of slight pain at times in the left shoulder and back and of some difficulty in swallowing, which had been present since the voice was first lost. Otherwise she was in perfect health; the appetite was good and digestion normal. I found the voice of about one half its normal intensity. There was no difficulty in respiration and no cough except when attempting to swallow fluids. She was despondent for fear of being unable to return to her work, but there were no evidences of hysteria. There was evident paresis of the depressors of the epiglottis, as indicated by her difficulty in swallowing, though the condition was not discernible upon laryngoscopic examination.

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* Read before the American Laryngological Association at its twelfth annual congress.

Examination of the vocal cords showed absence of either congestion or swelling. On phonation, the left cord passed about three millimetres beyond the median line, but the right one remained motionless at the side of the larynx. At her first visit I applied a simple stimulating spray to the larynx and ordered pills containing iron and quinine with one twentieth of a grain of strychnine in each. At her second visit the same local application was made and the strychnine continued, though the other remedies were changed. A week later there had been no material improvement. The faradaic current was then applied to the cord itself by means of a double electrode. The internal remedies were continued. A few days later the faradaic current was again employed and the dose of strychnine was increased to one sixteenth of a grain. Four days later the same treatment was repeated. At her next visit (twenty days after she had first consulted me) it was noted that, although the right cord itself was motionless, the tissues covering the right arytænoid cartilage moved considerably on phonation. Three days later there had been slight, if any, improvement. The faradaic current was then discontinued, but the strychnine was increased to one twelfth of a grain three times daily. From this time on I made no local applications. About a week later, as the patient wished to return to her home in the country, I increased the dose of strychnine to one tenth of a grain and gave her in addition a grain and a half of quinine, a grain of the valerianate of zinc, and one fortieth of a grain of nitrate of sanguinarine three times a day. She was allowed also to apply the faradaic current over the larynx as suited her inclination. I heard nothing more from the patient for five weeks. During that time she had continued the treatment, and she then reported herself completely cured. There was no subsequent return of the dysphonia. Some months later I saw the patient and found that the paralysis had entirely disappeared.

Case II.—Miss L. B., aged nineteen. This patient came to me in the latter part of March on account of difficulty in speaking, which not only interfered with her ordinary voice but prevented singing. She stated that for a year and a half she had been troubled with catarrh, and that recently she had been under the treatment of another physician for this affection. He had found enlargement of Luschka's tonsil, which he had removed at two different operations. The first operation gave her much pain, but at the second operation cocaine was used more freely and there had been little or no suffering. Upon the day following the second operation she had been comfortable and had used her voice more than usual, but on arising the next morning—that is, two days after the operation—she found herself unable to speak louder than a whisper. This occurred eight weeks before the time she first consulted me. In the mean time her voice had gradually improved until at the time I saw her she could speak aloud in a husky tone, but she was unable to sing. During these two months she had been under the treatment of her physician, and had received several applications of the faradaic current. Her general health was excellent and she had no cough or dyspnœa.

I found the nares and naso-pharynx essentially normal, but there was some inflammation of the Eustachian tubes. Upon examination of the larynx, I found the right vocal cord completely abducted and immovable upon attempted phonation. There was no congestion or swelling of the parts. I applied the static current and recommended the internal use of strychnine, but she did not place herself under my care until nearly two weeks later. Upon her return, I applied to the Eustachian tubes and middle ear an oily solution of carbolic acid, gr. ij, and menthol, gr. v, in liquid alboline, ℥ j. This was introduced through the naso-pharynx by means of my ordinary atomizer, with a long bent tip, the nostril being held while the spray was being thrown in. I applied to the larynx a slightly stimulating spray, mainly for its psychical effects, and used the static current externally over the larynx. Thereafter she took sulphate of strychnine in gradually increasing doses until she experienced a peculiar nervousness about twenty minutes after taking the medicine. This did not occur until the dose had reached one tenth of a grain three times daily. It was found that half this dose could be taken six times daily without inconvenience, therefore this method was adopted. The case is still under treatment. On phonation, the supra-arytænoid cartilages of the right side move a little, but the vocal cord remains motionless and the left cord nearly meets its fellow far to the right of the median line. The question has arisen in my mind whether this paralysis could have preceded her attack of aphonia, but everything in the history of the case seems to prove that it did not, and the most critical examination fails to detect any other than a hysterical origin, either centric or along the course of the pneumogastric or recurrent laryngeal nerve.

This patient was completely cured in four weeks after the foregoing was written, and there has been no recurrence.

70 State Street.

STUDIES IN THERAPEUTICS.

THE PHARMACOLOGY OF ERGOT.

By JOHN AULDE, M. D.,
PHILADELPHIA.

The dangers from the use of ergot are not so great as one would suppose from a study of the effects upon the system. Large doses, short of poisoning, if continued for a sufficient time, will cause paralysis, and anæsthesia with coldness of the surface, these phenomena being due to a lack of blood-supply to the affected tissues, as will appear further on in this discussion. When given in sufficient quantity, ergot produces all the symptoms of an irritant poison, such as nausea, colic, giddiness, dilatation of the pupil, with dimness of vision and stupor, often accompanied by diarrhœa and vomiting. Poisoning is referred to as ergotism, and epidemics have occurred at different times in countries where rye-bread forms a food-staple, but the system appears to be very tolerant of large doses given for medicinal purposes. Ergotism presents two varieties of symptoms; they may be simply gangrenous or in the nature of nervous manifestations—such as formication, paralysis of sensation in the extremities, sclerosis of the postero-lateral columns, and possibly epileptiform seizures. These symptoms may appear either in the acute or chronic form, although they are not separated by well-marked pathological differences, and the only guide is that the latter more generally are to be seen as the effect of living for a time upon bread made from diseased grain, and is more likely to affect a number of persons than a single individual.

The action of ergot is antagonized by the exhibition of nitrite of amyl, which possesses the property of dilating the arterial capillaries, and possibly also by glonoin and by all those remedies which cause depression as a secondary effect—such as aconite, veratrum viride, tobacco, and lobelia. After the immediate difficulty has been met and overcome, potassium iodide, corrosive sublimate, and the diffusible stimulants—like carbonate and iodide of ammonium—should be administered, while the persistent use of oxygen gas is to be commended. Cerebral symptoms may be avoided, for a time at least, by compelling the patient to retain the recumbent position. The remedies which can be relied upon as synergists are cold, digitalis, and electricity, when administered in such a manner that the primary action favors the contraction of the minute blood-vessels; belladonna, too, when taken in such quantity as to produce a degree of narcotism, will be found to favor the action of ergot.

The antidotes are tannin and stimulants, besides the inhalation of oxygen to prevent paralysis of respiration, which is the mode of death from ergotism.

Absorption from the stomach, or its use hypodermatically, will produce the full physiological effects of the drug, although the history of the epidemics which have occurred would lead us to suspect that want of proper food may have something to do with their development, as ordinarily no bad results attend the exhibition of medicinal doses.

Of the active principles, sphacelinic acid appears to be the most characteristic of ergot in its effects upon the uterus, as well as upon the arterioles, but the active principle, cornutine, is entitled to a share of credit, as its action upon the blood-vessels is very decided. Ergotinic acid, when given alone, reduces the blood-pressure, showing that in its crude form ergot is a complex product. Ergotin, or Bonjean's ergotine, is a product now on the market, and that is the preparation generally referred to, although it is liable to be inert from faulty methods of preparation, and as these are defects which are at all times unavoidable, due allowance must be made in the case of adverse reports upon any preparation. The perfection of the product is always to be considered, but this is especially demanded when the hypodermatic method is to be adopted.

Neither ergotinic acid nor ergotinine appear to possess the property of influencing or inducing uterine contractions. The former causes very decided nervous symptoms, while the latter can be removed from ergot without apparently affecting its properties. The action of ergot preparations will therefore depend upon the amount of sphacelinic acid and cornutine they contain, which leads to the observation that physicians will do well to confine themselves to assayed preparations until the different active principles have been fully studied and placed on the market.

Ergot has been variously classed as a stimulant and oxytocic, and its general action has long been regarded as an emmenagogue and ecbolic, but later knowledge of diseased conditions has greatly widened the field of its usefulness, and there are other indications for this drug than to cause contraction of the uterus and check hæmorrhages. It causes dilatation of the pupil; acting upon the blood-vessels as a styptic, it is closely connected with astringents, which nearly all coagulate albuminous substances.

The nervous system is distinctly affected by preparations of ergot, although Ringer asserts that its action upon the heart is not due to the effect upon the vagus (inhibition), but to its direct action upon the cardiac muscle. Brunton has observed that the circulation in the frog's heart is not always attended with the same symptoms, although he believes that slowing and diastolic arrest are due to the action of ergot on the inhibitory apparatus. This slowing of the heart, with less powerful contractions, and final arrest in diastole, he thinks, is due to the depressing action of the drug on the motor ganglia of the heart. He suggests also the probability that ergot affects the heart muscle as it does the arterioles, and that, in addition thereto, inhibition is effected through the vagus acting upon the cardiac ganglia. The investigations of this industrious author have been very carefully conducted, and will be of immense value to those who may wish to undertake experimental researches on their own account. For convenience the following observations are selected: Cornutine, he says, is the principle which is concerned in the stimulation of the vaso-motor center, causing a rise in blood-pressure, but, with due respect, it is suggested that the word irritant would better express the action which this drug is supposed to have upon the vaso-motor center, and the context is a sufficient indorsement of the exception made, as he goes on to say that it is very doubtful whether these nerves are stimulated by drugs, as he has not been able to demonstrate whether the action is upon the terminal filaments or in the muscular walls. On the whole, it is accepted that the function of the motor nerves is somewhat heightened, while the sensory nerves as well as the spinal cord are paralyzed.

Much controversy has arisen regarding the action of ergot upon the circulation, and it has been proved experimentally that ergot causes contraction of the smaller arteries by acting on their muscular walls, thus increasing the systemic blood-pressure. The facts can not longer be denied that ergot affects more especially tissues that present excessive vascularity—as in the gravid uterus, thyreoid enlargement, and hypertrophy of the spleen and of the prostate. Not only is there cerebral and spinal anæmia, with blanched appearance of the face and coldness of the skin, but there are other evidences of arterial anæmia and consequent venous dilatation, with distention of the abdominal vessels—a condition which interferes with the regular distribution of the drug throughout the system, and which should be avoided when the administration is to be long continued. It is readily admitted that ergot causes gangrene by diminishing the caliber of the vessels and obstructing the circulation, but the method by which this object is secured has long been a bone of contention. It will therefore not be considered out of place should the matter be referred to here as viewed from the clinical standpoint.

Bartholow says the notion that ergot causes contraction of the arteries by stimulating the vaso-motor system and its muscular apparatus has long been entertained, and he is disposed to adopt Wernich's theory, announced in 1870, that the arteries become smaller by passive collapse, by reason of a deficient supply of arterial blood. He reasons that, as active movements of the muscular fibers of the intestines and uterus may be induced by arterial anæmia, these increased peristalses and uterine contractions must be due to "diminished cardiac energy, dilatation of the veins, and arterial anæmia," thus eliminating the influence which has heretofore been supposed to rest with the sympathetic system. The explanation is complicated and difficult to comprehend, and, besides, it starts the student on a line of investigation with a view to determine the cause of this sudden change of base. Would it not be well in this case to assume that the nearest approach to the facts lies in assuming that ergot so affects the sympathetic nervous system that control over the muscular fibers of both intestinal canal and uterus is suspended, and that, possessing inherent contractile properties, these muscular fibers contract, the result being arterial anæmia? If this theory is adopted, it follows that all unstriped muscular fiber wherever found in the human body is similarly affected; and the proposition is substantially true.

This explanation apparently is confirmed by the use of the drug, and is sufficient to account for the contradictory statements which have been made regarding certain preparations, as well as the varied effects which have been noted by different observers. Thus in the case of pulmonary hæmorrhage, or post-partum hæmorrhage, the administration of a drachm or more is generally followed in due time by a subsidence of all the dangerous symptoms, and the preparation is pronounced good; but, should the emergency again occur in the course of a few hours, a repetition of the dose is apparently useless, and the drug is condemned. The difficulty here lies not so much in the preparation as in the method of administration. The initial dose produces arterial anæmia at the same time that it causes a cessation of the hæmorrhage, but arterial anæmia, with its attendant constriction of the arterioles, prevents the drug from reaching the affected tissues in sufficient quantity to produce an effect commensurate with the amount taken the second time. The first dose practically destroys itself by causing arterial anæmia with dilatation of the abdominal veins, and the second dose soon reaches the same pocket. Should the patient insist upon maintaining the upright position, cerebral symptoms will not long be delayed, and if continued for a length of time, distinct physiological indications of ergotism will be manifested.

These symptoms resemble in some respects the conditions which attend upon somatic death before cellular death has taken place. An illustration is found in the emptied cardiac cavities, the contracted and bloodless arteries, and in the involuntary contractions which occur in the parturient womb, which has been known to expel the child *in utero* after the death of the mother; and yet no one has thus far interpreted the phenomena above described as being due to stimulation of the sympathetic system, nor has it been pointed out as an illustration of passive collapse of the arteries. The absurdity of these propositions furnishes no inducement for argument, and for the same reason the "temporary hypothesis" regarding inhibition, so far as it relates to ergot, should be discarded.

The benefits to be derived from the appropriate exhibition of small doses of this drug, in view of the foregoing propositions, are now readily understood; the explanation is simple, and apparently the demonstration is complete. When a comparatively small quantity is introduced into the system, and the dose frequently repeated, the nerves controlling the caliber of the blood-vessels are constantly under its influence; their power over the muscular fibers is suspended or held in abeyance, and not until considerable time has elapsed will pronounced general arterial anæmia take place; the operation of the drug is constant, the effect more permanent, and likewise more certain, when small doses are administered. The deduction is not warranted, however, that large doses are always contra-indicated; on the contrary, there are times when it is desired to get the immediate effects of the drug, and in such emergencies a drachm or more may be given with the expectation that good results will attend its use, providing the stomach does not rebel.

The true position of ergot in its entirety, with reference to its paralyzing action upon respiration, in the light of this explanation can not fail to be appreciated. Embarrassment of respiration naturally attends upon diminished blood-supply, a condition which involves the systemic to an equal extent with the pulmonary circulation. Defective internal respiration becomes a factor of paramount importance, and the attending phenomena are thus rendered explicable, and to a certain extent conclusive, regarding the position assumed. It will be noticed that I have not in this discussion taken into consideration the special action of the respective substances which have been isolated and are now recognized as active principles, and in explanation it should be added that for the most part they may be looked upon more as laboratory curiosities than as therapeutic agents, because at present they are not produced in sufficient quantity to enable the physician to supply his patients with them. Doubtless the time will come when their specific uses will be of great benefit to the medical profession, but until material advances have been made in our methods of pharmacy we must be satisfied to continue the use of the crude drug.

A study of the effects of large doses, medicinal doses, and small doses would be an interesting subject, but so much has already been said that it is believed this matter may with propriety be omitted. Whoever will consider candidly what has already been said needs no caution as to the proper methods for using this remedy so far as it affects the circulation. However, a few words may be added: that it contracts the arterioles like digitalis; that, like digitalis, it is a vascular sedative, and lessens the flow of blood through the vessels (arterioles), and for this reason it has been successfully used in controlling local inflammatory action. Acting thus upon the blood-vessels, ergot may be employed as a styptic, and is therefore closely allied to astringents. The slowing of the heart follows upon the increased amount of work the organ is called upon to perform in forcing the blood through the contracted blood-vessels and for the same reason the rate of the pulse is lowered, while the arterial tension is considerably raised. The effect thus produced upon the brain may develop syncope, or the presence of the drug in the tissues may be sufficient to cause symptoms of narcotism.

Respiration is slowed, and, as has already been stated, death takes place from paralysis of this function. Ergot in decided doses lowers the temperature, and, when long continued, the general action simulates in some respects certain forms of disease.

As mentioned above, the action of ergot is manifested upon the involuntary muscular fibers throughout the body, and is not, as was long supposed, confined to the muscular fibers of the uterus; other organs—as the heart, the kidneys, the liver, and the muscular walls of the intestine—are also affected, and, when given hypodermatically, may cause inco-ordination, anæsthesia, and paralysis.

A noticeable feature in connection with the development of ergotism is the fact that functional activity of the digestive system is greatly increased, and the appetite becomes ravenous; this condition may be accounted for, in part at least, by the determination of blood to the abdominal veins, showing that it is the physical rather than the nervous system which is affected. Peristalsis is increased, and there is an increased secretion from mucous surfaces, but small doses, even when long continued, present no physiological derangements except as regards the face. Large doses set up gastro-intestinal irritation. So far, no investigations have been made to determine its effect upon the composition of the blood.

In addition to what has been said, the action of ergot upon the genito-urinary system may be summed up in a few words. By its exhibition, contractions of the muscular fibers of the uterus are set up different from those which occur normally by reason of their tonicity, and to express this peculiarity the word tetanic has been adopted. Brunton suggests that this action may be partly due to the influence of the drug upon the uterine center in the spinal cord. By reason of the property just mentioned, ergot has been classed as a direct emmenagogue. The mode of action of ecbolics is still undecided, although there is no question but that ergot is one of the first. The urine is increased in amount, but this can not be accepted as an indication for its use in the treatment of diabetes insipidus, a condition which probably depends upon a relaxed state of the renal tissues, which ergot promptly overcomes. There is reason to believe also that the muscular fibers of the bladder respond to the influence of this drug.

1910 Arch Street.

NEW TESTS FOR BINOCULAR VISION.[*]

By J. A. LIPPINCOTT, M. D.,

PITTSBURGH, PA.

Tests for binocular vision are of two classes—1, those for determining the presence or absence of uniocular blindness; and 2, those for establishing the existence or non-existence of binocular single or stereoscopic vision. The former class includes all the methods of preventing the sound eye from seeing—*e. g.*, placing a strong convex glass in front of it, as suggested by Harlan,[*] or a strong concave glass, as mentioned by Juler,[†] or rendering certain letters of a word invisible, as in Snellen's[‡] test, etc. This class also includes the examination of the pupil reflexes direct and indirect. The second class includes Hering's test and the temporary strabismus test with a prism, as well as the various tests with the stereoscope, etc.

The tests which I venture to present for your consideration to-day belong to the second class. Like other tests of this class, they may, of course, when they elicit positive results, take the place of tests of the first class, and so may be of use in the detection of malingering. If, on the other hand, the results are negative, they demonstrate only the absence of binocular single vision, and not the presence of monocular blindness.

In 1875 Dr. Wadsworth[#] reported a case in which a $-\frac{1}{13}$ cyl., axis vert., before the left eye, and $+\frac{1}{48}$ cyl., axis 45°, before the right, produced an apparent convergence of parallel lines toward the left side. On November 3, 1888, the *Journal of the American Medical Association* contained an article by Dr. H. Culbertson in which he referred to phenomena similar to that observed by Dr. Wadsworth. In March, 1889, I published in the *Archives of Ophthalmology* an article on The Binocular Metamorphopsia produced by Correcting Glasses, in which I gave the results of a large number of observations and experiments. These results, or rather those of them that have a bearing on the purpose of the present paper, may be briefly restated as follows:

1. A + spherical placed before one eye makes the corresponding side of a rectangle appear higher than the other side.

2. A — spherical makes the corresponding side appear lower.

3. A + cyl., vertical, *increases*, whereas a + cyl., horizontal, lessens the apparent height of the corresponding side.

4. A — cyl., vertical, lessens, whereas a — cyl., horizontal, increases the apparent height of the corresponding side.

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[*] Read before the American Ophthalmological Society at its twenty-sixth annual meeting.

[*] *Trans. of the Amer. Ophthal. Soc.* for 1882, p. 400.

[†] *Ophthalmic Science and Practice*, Philadelphia, p. 227.

[‡] Snellen's test is to be considered as a test rather for the absence of monocular blindness than for the presence of binocular single vision, because, as ordinarily applied—viz., with one eye covered with a colored glass—if all the letters are visible, we know that both eyes see, but we do not know that they see in unison, since the covered eye may no longer fix. If, on the contrary, we cover one eye with a glass of one and the other eye with a glass of the other complementary color, and if the word still remains visible, we demonstrate the presence not only of *binocular*, but of *binocular single* vision.

The test just alluded to, and the various prismatic tests, with the exception of the one to be mentioned in a subsequent foot-note, are, strictly speaking, tests for binocular single, but not for stereoscopic vision, the latter involving the element of depth or estimation of distance, in which the varying degree of convergence of the optic axes plays the leading *rôle*. The distinction may, however, be regarded as theoretical rather than practical.

[#] *Trans. of the Amer. Oph. Soc.* for 1875, p. 342.

5. A + cyl., axis pointing upward and outward, before either (and still more decidedly before each) eye makes the top of a rectangle appear narrower than the bottom, while if the axis point upward and inward the top appears wider.

6. — Cylinders, axes upward and outward, increase, whereas those with axis pointing upward and inward lessen the apparent relative width of the top.

7. Binocular vision is necessary for the production of optical metamorphopsia. Hence the lens must not be so strong as to make the image sufficiently blurred to be incapable of fusion with that formed by the other eye, for in that case the blurred image is suppressed mentally and monocular vision thus practically established.

At the last meeting of this society, Dr. Green[*] suggested the most plausible explanation yet given of the appearances above described, although this explanation seems unsatisfactory in some respects.

The appearances can be elicited in the case of all persons—emmetropes, ametropes, or anisometropes. The only *sine qua non* is the possession of binocular single or stereoscopic vision. Such being the case, it has occurred to me to employ the phenomena of optical metamorphopsy as stereoscopic tests.[†]

In applying these tests, I usually hold a + 2 cylinder, vertical, before one eye with one hand, while with the other I hold up a twelve-inch-square card at the ordinary reading distance, and then ask which of the two sides is the higher. The answer is generally pretty prompt and decided. I then quickly put the card to one side, turn the axis of the cylinder to the horizontal, and again hold up the card. The side, which in the first instance appeared higher, now appears lower than the other. If I wish to confirm the results obtained with the + cylinder, I employ a — 2 cylinder, first with the axis vertical, making the corresponding side appear lower, and then with the axis horizontal, producing the contrary effect. If I wish to make assurance doubly sure, I make the top of the card appear wider or narrower than the bottom by holding either one or two cylinders with axis oblique before the eyes, etc.

The advantages which may be claimed for these tests are their variety and their simplicity. They are stereoscopic tests with the stereoscope left out. The unsuspecting patient may in the space of a few minutes be examined and cross-examined again and again with no more extensive apparatus than a rectangular card or book and two or three lenses from an ordinary trial case.

Besides enabling the examiner to dispense with the stereoscope and its attendant paraphernalia, a signal advantage is that we have the patient more completely under control. We can better observe him than if his eyes are hidden behind the eye-pieces of the stereoscope, and can thus effectually guard against any experiments which he may, if of an investigating turn of mind, desire to try as to the effect of closing one eye. Besides, the changes can be rung with such rapidity as to confuse the most accomplished malingerer if he actually possesses binocular single vision.

I think it important on practical as well as on theoretical grounds to have a test for stereoscopic vision which can be quickly and easily applied. In refraction work, for example, we are sometimes in doubt as to the propriety or necessity of correcting both eyes, owing to the patient's inability to decide whether or not he sees better with both eyes than with one. In such cases we may be aided by knowing whether the stereoscopic faculty is present. To illustrate:

Case I.—E. P. A. has S. R. E. = 8/CC.; L. E., do. R. E. — 13 — 4 c., 20°, S. = 20 / Lx; L. E. — 12 — 4 c., 165°, S. = 20 / Lx. Reads best with R. E. — 7 — 3·5 c., 20°; L. E. — 7 — 3·5 c., 165°; P. D. .62 mm. With these glasses a vertical prism develops at twenty feet distance esophoria = prism 5, and at reading distance exophoria = prism 6. In near fixation each eye, on being covered, swings out about two mm. With both eyes corrected for reading, patient can not positively state whether or not the two eyes are better than one. Sometimes they seem better and sometimes not. The metamorphoptic test shows that stereoscopic vision is possible, though not constant. Hence I corrected both eyes in the expectation that the binocular impulse, although now feeble, may in time be developed and strengthened.

Case II.—Dr. A. M. N., aged fifty-eight: S. R. E. = 20 / C +· With + 1·25 + 1 c., 110°, S. = 20 / xx —; L. E. emm. S. = 20 / xx. Reads best R. E. + 4. + 1 c., 110°; L. E. + 3. Thus fitted, patient could not say whether or not the right eye helped vision. But metamorphopsia was present, and therefore I corrected both eyes.

Of course I do not mean to say that the possession of stereoscopic vision always makes it desirable to correct both eyes, because every one knows that there are cases of anisometropia which, although showing undoubted stereoscopic vision (and indeed because of it), will tolerate the correction of only one eye. On the other hand, the absence of stereoscopic vision is not an infallible indication for correcting only one eye, because we, in rare instances, find persons who use one eye for remote and the other for near vision.

On one occasion the stereoscopic test led me to discover a condition which I had previously overlooked.

Case III.—Miss C. L. F., aged fifty-five: R. E. (operated upon for cataract, October, 1887) + 11 + 2 c., hor., S. = 20 / xx —; L. E. (operated upon October, 1888) + 12, S. = 20 / xxx. At the time I was making some experiments with regard to metamorphopsia in aphakial eyes, and I found that in this case metamorphoptic phenomena could not be elicited. On seeking the cause, there was discovered a slight deviation upward of left eye = prism 4. On adding to her reading glasses the appropriate vertical prism, stereoscopic vision was promptly established, and reading was now better accomplished with both eyes than with one.

Not long ago I was asked by a man who had been operated upon for cataract, whether he could go back to his trade of bottle-maker. His vision is unusually good. R. E. + 6·5 + ·75 c., 62°, S. = 20 / xx +; L. E. + 6·5 + 1·5 c., 172°, S. = 20 / xii. Before answering his question, knowing how important it would be for him to estimate distance correctly, his stereoscopic vision was tested and found perfect. I unhesitatingly assured him that he would have no difficulty. He has since told me that he can now work better than ever. This is doubtless owing to the fact that, before the cataracts developed, he must have been myopic, as may be inferred from the comparatively weak glass now required to overcome his aphakia.

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[*] *Trans. of the Amer. Ophth. Soc.* for 1889.

[†] The apparent concavity (*Krümmung*) and convexity (*Wölbung*) produced in a plane surface by prisms, bases out or in, explained by Nagel in Graefe u. Saemisch's *Handbuch*, Bd. vi, S. 366, answer the same purpose.

In conclusion, it may be said that the tests here suggested furnish a convenient means of investigating certain theoretical questions, such as the comparative frequency of stereoscopic vision in general, and especially in anisometropia, in monocular amblyopia,* after the correction of strabismus, etc. But a discussion of these points is beyond the purpose of the present paper.

A CASE OF UTERUS BILOCULARIS UNICOLLIS.

By WARREN B. CHAPIN, A. M., M. D.

So many cases of uterine anomalies are now on record that we are enabled to classify the different forms of malformation, and have ceased to regard them as anything out of the common. The diagnosis of the existence of such malformations and their exact form is difficult, owing to the concealed location of the organ and the relative absence of distinguishing symptoms, and the occurrence of these malformations would seem of much greater frequency than the recorded cases show. I am induced to report the following case, evidently that of uterus bilocularis, chiefly on account of the peculiarity of the dividing septum, which differs in form from that usually found in the bilocular uterus.

On July 14th Mrs. S., aged twenty-four years, primipara, four months pregnant, was seized with labor pains. On examination, the os was found slightly dilated, and nothing abnormal in appearance of the cervix for that period of pregnancy. Employed the usual treatment for abortion, and several days later, the secundines not having been expelled, proceeded to empty the uterus. On vaginal examination, found the os well dilated, but the uterus was apparently empty. On again introducing my finger into the uterus, found a second cavity which contained the placenta, and which was separated by a wedge-shaped septum from the cavity into which my finger had first been introduced. The course of the abortion presented no unusual features, excepting that scarcely any blood was lost. The fact that the examining finger was first introduced into the empty cavity shows how easily a mistake in diagnosis could have been made, and, owing to the retained secundines, septic symptoms set up. As may be seen in Fig. 1, the dividing septum is wedge-shaped, having its base at the fundus uteri and its apex ending crescentically at the internal os, instead of being about the same general thickness from fundus to termination, as is usual in the uterus bilocularis. The gravid cavity was of about double the size of the other, with thinner uterine walls, and it had evidently pushed the septum over against the unimpregnated cavity as it increased in size. The cervical canal is common to both cavities. Fig. 2 shows the probable position of the septum before conception took place, it having assumed nearly that position since the uterus was emptied. The dotted lines in Fig. 2 show the shape of the septum as usually found in the bilocular uterus.

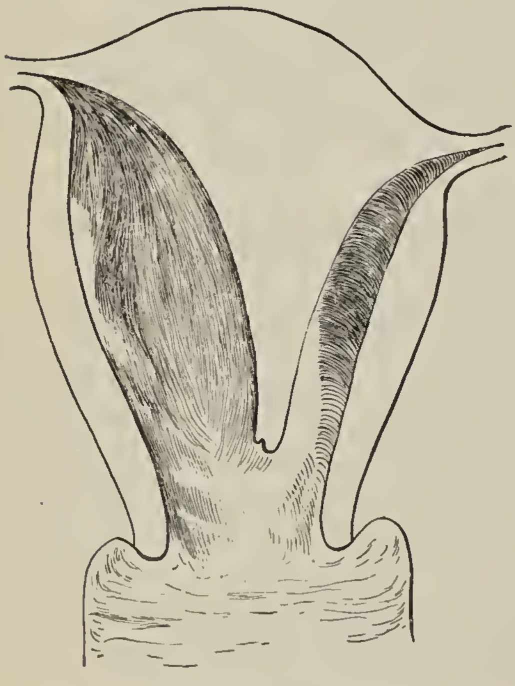

Fig. 1.

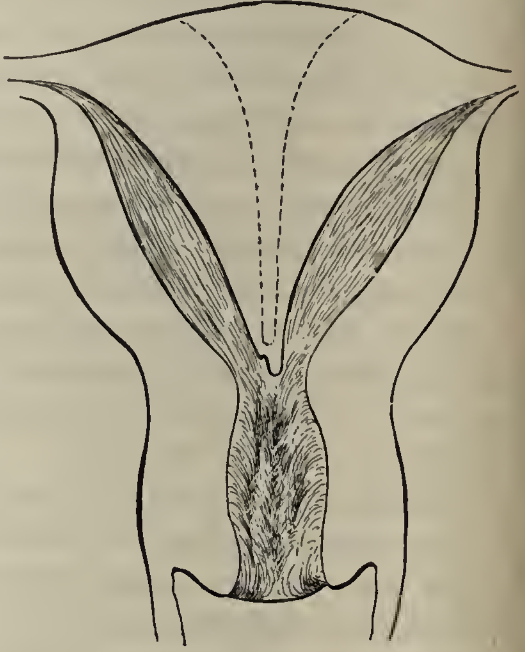

Fig. 2.

In consequence of the wedge-shaped septum, the wide-spread separation of the cavities and their lateral direction would lead to the diagnosis of uterus bicornis; but, on bimanual examination, the uterus was found to consist of a single body, which was somewhat larger than is usual at the fourth month of pregnancy. There was no separation at the fundus, and the convexity of the uterus was normal in shape, with the exception of an enlargement on one side, due to its gravid state.

Since writing the foregoing, I have delivered the patient of a six months' fœtus, which occupied the cavity I had supposed to be unimpregnated.

On August 12th, twenty-nine days after delivery of the first fœtus, the patient complained of severe pains in the abdomen and back. Her abdomen, which was nearly flat when I last saw her two weeks before, now had the appearance of the sixth or seventh month of pregnancy. She said it had suddenly grown large about a week after I last saw her.

I found the os well dilated, and a fœtal head presenting from the right cavity, the one I had supposed to be unimpregnated. The left cavity was dilated sufficient to admit my two fingers. A few hours later she gave birth to a small six months' fœtus, which was still contained within the unruptured amniotic sac, and surrounded by the placenta.

Subsequent examination of the uterus confirmed my diagnosis of a bilocular uterus with a wedge-shaped septum. At the first examination I was led to believe that the right cavity was unimpregnated, from the fact that my finger entered it for at least two inches without encountering a foreign body.

114 West One Hundred and Fourth Street.

Rush Medical College.—The chair of medical practice in the Rush Medical College, Chicago, made vacant by the death of Professor J. Adams Allen, is said to have been offered to Dr. Henry M. Lyman, formerly professor of chemistry and of diseases of the nervous system in the same institution. Dr. Harold N. Moyer has been elected to the professorship of physiology.

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* Better expressed by "anisopia," suggested by Dr. Ryder to imply inequality of visual acuity in the two eyes.

THE
NEW YORK MEDICAL JOURNAL,
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Edited by Frank P. Foster, M. D.

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ERRORS IN THE DIAGNOSIS OF INFECTIOUS DISEASES.

In many cities there exists to a greater or less extent a feeling of jealousy between the medical officers of hospitals and those whose practice lies among the class of people who frequent such institutions. A great deal of this feeling arises out of differences of opinion as to the diagnosis of infectious disease. For instance, a child has a sore throat, the physician called in has to make a rapid diagnosis on very doubtful symptoms, for he must protect the other children, and to wait until he is quite sure about the throat means that he is to wait until diphtheria has time to fasten itself upon the others. With much difficulty he persuades the mother to take the child to the hospital, where a few hours later she is told that the child has not diphtheria at all, or that it has scarlet fever, the rash having become developed in the mean time. Possibly the hospital doctor may have more experience, but as a matter of fact he is generally young, while the outside man is commonly his senior, and the bitterness of the difference of opinion is intensified. We do not mean to say that in all instances the hospital physician is right, but it is plain that he acts at a great advantage. The case is more advanced when it reaches him and he is not obliged to act upon the very spur of the moment. The patient can be put into a general ward for observation for a few hours and additional advice can be obtained.

In the *Glasgow Medical Journal* Dr. Russell, the well-known health officer of that city, deals with the subject of errors in the diagnosis of the infectious diseases. To begin with, typhus and typhoid fevers very commonly are mistaken the one for the other, and both for other diseases. In a localized outbreak of typhus cases of this disease were found by the health officers to have been diagnosticated, the majority as "enteric," and the initial case had been treated as inflammation of the lungs. Of 1,499 consecutive patients sent into the Belvidere Hospital as suffering from infectious disease, 114, or 7·6 per cent., did not suffer from the particular affection for which they had been sent in, and of those 114, no fewer than 85, or 5·7 per cent. of the whole number, had no infectious disease at all. Mistakes in scarlet fever, measles, and whooping-cough are few. In only three per cent. of the scarlet-fever cases was the diagnosis wrong, and one per cent. only of the patients had no infectious disease. Errors were excessive in enteric and typhus fever, and also in diphtheria. Seventeen per cent. of the persons sent in with a diagnosis of enteric fever had not that disorder, and most of them had no infectious disease at all. Of the certificates of diphtheria, twenty-four per cent. were wrong and about twelve per cent. of the patients had no infectious complaint. Forty-four per cent. of those said to have typhus were free from that fever, and half of that proportion did not require hospital treatment. Of the forty-two cases erroneously designated enteric fever, fourteen were inflammation of the lungs, five simple diarrhœa, four disease of the brain, five various chronic affections, and four typhus; the remaining ten patients were absolutely non-febrile. Of the sixteen cases wrongly certified as typhus, three were pneumonia, one was purpura, and one alcoholism. Three patients had no obvious disease, and eight suffered from typhoid fever. When the diagnosis of diphtheria was erroneous half the patients had scarlet fever and the other half simple inflammation of the throat. In fifty-eight cases the cautious diagnosis of "fever" was given; twenty-four of these turned out to be typhoid, nine typhus, six scarlet fever, three measles, and one whooping-cough. Of the remaining fifteen, lung inflammations accounted for nine and three were non-febrile.

These figures afford food for very serious reflection. The protection of the community from disease depends upon its prompt recognition, and that can not be effected unless those intrusted with this public duty are specially trained for the purpose. Dr. Russell's report has been followed in Great Britain by a cry for the better instruction of students in the diagnosis of infectious disease, and it would be well if in this country we turned our attention in the same direction. It is not an exaggeration to say that ninety-nine per cent. of those who are graduated in our colleges are devoid of any practical knowledge relating to the recognition of infectious diseases in their early stages, and it is quite possible that a young graduate might in his first year's work stumble upon an initial case of diphtheria, typhoid fever, or scarlatina, the prompt handling of which might save the community all the miseries incident on sickness and death from that disease.

A SURGEON'S SERMON ON HOSPITALS.

It is not often that we are called upon to record the fact that one of our profession has been addressing the public directly. Appeals for aid toward our great charities are generally left for the lay workers connected with such institutions. Hospital Sunday services were held in London on the 15th of June, and a large amount of money was collected. No doubt many eloquent sermons were preached at the hundred or more churches at which this special collection was made, but we venture to say that the best sermon preached for the hospitals came, not from the pulpit, but from the platform at the public meeting summoned by the Lord Mayor for the purpose of promoting the welfare of the hospitals of London by means of the Metropolitan Hospital Sunday Fund, and the preacher of that sermon was Mr. Jonathan Hutchinson, a man who has honestly earned the love and respect of all members of our profession. In the selection of Mr. Hutchinson the hospitals gained the services of an eloquent and earnest pleader, and any one who loves his fellow-man must be the better for reading his address. Mr. Hutchinson spoke of himself as one who had been a long time behind the scenes, and who knew much of the workings of not a few hospitals, and he solemnly declared his belief that no institutions in the world were on the whole better managed than the hospitals of the British metropolis. He then dealt with the various charges brought against modern hospitals, some of which he believed were to a certain extent true, but to an insignificantly small extent, and he showed how some of the charges neutralized others. Thus, it was said that out-patients were hurriedly examined and seen by deputy, while others declared that the attractions of the out-patient department were so great that people comparatively well to do deserted their family advisers, and thus the medical profession was defrauded. But abuses such as the last named affected chiefly the special hospitals, and therefore the consultant suffered and not the general practitioner.

The definition of a modern hospital which best pleases Mr. Hutchinson, and which he likes to keep constantly in mind, is that it is an institution for the prevention of orphanage. Not that all or nearly all the maladies treated entail danger to life, nor that all the patients are parents, but a large proportion of hospital practice does concern those who have others dependent upon them, and we may suitably recognize degrees of incapacity short of actual death, for the loss of a limb or an eye or a permanent impairment in health may easily entail on a man's family calamities little short of what would have followed his death. Such a definition helps us to some adequate conception of the real value of such institutions and places medical charity in the position which it really ought to occupy —that of the foremost of all forms of beneficence. Hospitals are the schools in which medical science is cultivated and from which those go forth who spread its benefits all over the world. Within recent years some diseases have been nearly exterminated, the ratio of mortality from nearly all has been greatly diminished, and the average duration of human life has been definitely increased. We are at war with death, not the divine ordinance of death, which we accept thankfully as one which favors the progress of our race, but with death in its premature and irregular forms. We wish to prevent and remedy the disabilities of life, the disqualifications for usefulness in its duties and enjoyment of its happiness. We wish to prevent orphanhood in all forms and degrees.

Some persons think that it would be better if hospitals were supported by the state, but with them the speaker did not agree. Free giving was an education involving self-education. The act of giving might become by custom the source of one of the highest forms of pleasure of which our natures were capable; and no such gratification attended the payment of a tax or rate. If, however, we rejected a state-imposed tax, Mr. Hutchinson proposed a self-imposed tax on health in its place. Those who had to bear the sufferings of illness should not be made to pay for it. As we valued the possession of sound lungs, of strong limbs, of unimpaired eyesight, of a face and figure which, free from deformity and defect, permitted of our mixing with our fellows with mutual pleasure, so let us measure the contributions which we made for the help of those to whom one or other of these blessings was denied. The heart's sympathies depended almost wholly upon our power of realizing what suffering really was. An unimaginative person could not, for example, realize what it was to be blind. He could walk and run, and he never troubled himself to imagine what it was to be lame. The imaginative faculty was, then, the highest of all human endowments, since it was at the bottom of all generous emotions. Let any one who was conscious of lack of sympathy with the afflicted go for a week to his usual city vocations with a black patch covering one eye; let him wear for one day a wooden leg, a truss, or a spinal apparatus, and he would find his fellow feelings for those in need of such appliances vastly increased. Let him choose some leisure day in the country in bright spring and resolutely for twenty-four hours keep a bandage placed over both eyes. His would be a hopeless case if the next morning he did not send a contribution to the hospital. The speaker concluded his address with an earnest appeal to the young men and maidens who, in possession of vigor and beauty, regarded the future of life with unclouded hope, to those in middle age who were enabled to rejoice in their own or their children's health, and to those who, although now old, could look back with thankfulness on the events of life.

MINOR PARAGRAPHS.

THE PROFESSIONAL MARK OF BAKERS.

Dr. G. Ranzier, in a paper in the *Gazette hebdomadaire des sciences médicales de Montpellier*, describes a professional mark that is nearly always present in Montpellier bakers, and that possesses a medico-legal interest. His attention was first called to it by a typhoid-fever patient, a baker, who had on the dorsal surface of the articulation of the first and second phalanges of each finger a large, round callosity covering the width of the finger. It was a hardening of the epidermis without participation of the deeper structures, and almost disappeared during the two months' treatment of the case. When questioned regarding the callosities, colloquially known as *bastets* or *coussinets*, the boy stated that bakers always had them. This statement was subsequently verified. The repeated shock of the flexed fingers against the dough in kneading produces the callosities. Where the kneading is done mechanically, of course, such stigmata will not be found. The author states that neither Tardieu, Max, nor Vernois, in their publications on the professional stigmata, refers to this mark of the baker that may be of medico-legal value.

MR. HUTCHINSON'S TREATMENT OF RINGWORM.

Mr. Jonathan Hutchinson gives, in his *Archives of Surgery*, the prescription upon which he has "settled down in tolerable content" for the treatment of ringworm, after having tried a great variety of remedies without equal satisfaction. He relies chiefly on chrysophanic acid. He orders as a wash for the scalp one drachm of Wright's liquor carbonis detergens to the pint of hot water. Twice a week the scalp should be well washed with this, and all scales and crusts should be removed. The hair is cut close or shaved. The chrysophanic-acid ointment contains a drachm of chrysophanic acid, twenty grains of ammoniated mercury, a drachm of lanoline, six drachms of benzoated lard, and ten minims of liquor carbonis detergens. This ointment is to be rubbed in more or less freely, according to its effects, night and morning, or latterly every night only.

The cure will be slow probably, and the secret of success consists in the patient continuance of the same remedy. To those who persevere he promises recovery; it is only the impatient who are disappointed. He has no faith in the rapid cure of ringworm.

THE STATE MEDICAL SOCIETY OF ARKANSAS.

Acting in accordance with the advice given by a recent president, Dr. Orto, the society has established a monthly journal. The first number is dated July, 1890, and contains, among other matter, Dr. Orto's presidential address, a number of papers read at the fifteenth annual meeting, and the minutes of the meeting. The journal is edited by Dr. Lorenzo P. Gibson, of Little Rock, under the supervision of a board of trustees consisting of Dr. P. O. Hooper, Dr. J. H. Southall, Dr. J. A. Dibrell, Dr. Zaphney Orto, and Dr. W. B. Lawrence. It presents a creditable appearance, and will doubtless aid materially in furthering the society's work.

THE FRENCH LAW REGARDING TWINS.

According to the *Medical Press and Circular*, a law passed years ago in France regards the last-born as the eldest in the case of twins. Consequently, when both of them survive and both are boys, on reaching manhood the second-born is required to serve in the army, for he has been legally adjudged to be the eldest. The reason for this is said to be that by some extraordinary calculation the medical men who were consulted at the time the law was framed came to the conclusion that the last-born of twins was always the first conceived.

THE MIDWIFERY DISPENSARY.

We have already spoken in commendation of this institution, and we are glad to learn from its published statement, dated July 18th, that it has afforded medical aid to a large number of applicants, and given instruction to thirty-one students, although it has been in operation considerably less than a year. The dispensary is exceedingly well managed, and we doubt not that it will continue to grow in professional and public esteem.

THE PARIS POLICLINIQUE.

An institution entitled the *Policlinique de Paris* has been opened at No. 28, rue Mazarine, for the purposes of furnishing medical aid to the poor and of giving practical instruction to medical students. From the information given in its journal, the *Annales de la Policlinique de Paris*, we judge that it closely resembles the post-graduate teaching institutions of America.

THE ASHEVILLE MEDICAL REVIEW.

This is the title of a new monthly journal which gives as its reasons for existence the purpose of keeping the profession informed as to the advantages of Asheville as a resort for invalids and that of supplying the requirements of western North Carolina and eastern Tennessee for a local medical journal. It contains the official reports of the proceedings of the Buncombe County Medical Society. It is edited by Dr. Frank T. Meriwether and Dr. H. Longstreet Taylor.

ITEMS, ETC.

The New York State Preliminary Examinations.—The examiners delegated by the Board of Regents of the University of the State of New York to examine persons entering upon the study of medicine, under the new law, began their work on Tuesday in New York, Brooklyn, Buffalo, Albany, and Syracuse. The candidates were examined in arithmetic, geography, grammar, English composition, United States history, physics, and physiology. The following was the examination in geography:

1. Define latitude and longitude and tell how each is reckoned. 2. Mention the grand divisions of the globe in the order of their importance, and give a reason for your answer. 3. What is a sea, a strait, a watershed? 4. Describe the two principal forms of government. 5. Draw an outline map of the United States and locate upon it two principal mountain chains and the Mississippi River and three of its principal tributaries. 6. Mention in order the States in which you would travel, by direct route, from Chicago to Washington. 7. Mention in the order of their size the largest three cities of the United States, as determined by the census of 1890. 8. Mention three cities in the State of New York where law or medical schools are located. 9. Which of the New England States, if any, does not engage largely in manufactures? What is its principal industry? 10. Mention in order the cities on the New York Central Railroad between Buffalo and Albany. 11. What States of Central America have recently been at war? 12. Describe the vegetable and mineral products of South America. 13. What country of South America recently changed its form of government, and what was the change? 14. Write the names of the following countries, and after each give its form of government and capital: England, Italy, France, Germany. 15. In what countries would you travel in going by the shortest route from Madrid to St. Petersburg? 16. What countries border on France? 17. Give the names of the largest four rivers of France and tell into what each empties. 18. Mention two exports of the empire of Japan. 19. Describe the Congo River, telling where it rises, in what direction it flows, and into what it empties, and give the name of the explorer who first traced it from its source to its mouth.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 23, 1890:

DISEASES.	Week ending Sept. 16.		Week ending Sept. 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	57	13	39	13
Scarlet fever	39	1	17	7
Cerebro-spinal meningitis	1	1	1	0
Measles	32	3	45	6
Diphtheria	47	19	42	17

The New York Polyclinic.—It is announced that this institution will exclude from its matriculates in future all persons who are not graduates of regular medical colleges or, having attended one or more courses of lectures at such a college, have a legal permit to practice.

The Chicago College of Physicians and Surgeons.—Dr. James A. Lydston, late chief of the eye and ear department of the Pension Bureau at Washington, has been elected professor of chemistry in the college.

Changes of Address.—Dr. J. Conger Bryan, to No. 357 West Fiftieth Street; Dr. Egbert H. Grandin, to No. 36 East Fifty-eighth Street.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 20, 1890:*

Olcott, F. W., Passed Assistant Surgeon, ordered to the U. S. Steamer Alert.

Society Meetings for the Coming Week:

Tuesday, *September 30th:* Boston Society of Medical Sciences.

Wednesday, *October 1st:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association; Philadelphia County Medical Society.

Thursday, *October 2d:* New York Academy of Medicine; Metropolitan Medical Society (private); Society of Physicians of the Village of

Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Washington, Vt., County Medical Society.

Friday, *October 3d:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *October 4th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

"PINK-EYE."

New York, *September 15, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue of September 6, 1890, is a letter relative to pink-eye over the signature of John E. Weeks, M. D.

Your correspondent wishes to notice my article which appeared in your issue of June 28, 1890, in order to correct what he is pleased to denominate "some errors."

The paper published in your Journal was read before the New York County Medical Association. The aggrieved gentleman was present and full opportunity was given him to reply to my criticism on his work. Before writing my paper, being desirous of doing full justice, I wrote asking your correspondent for his latest reprint on the subject of pink-eye, and for the list of all those observers who had noticed his experiments in print.

I made this statement in my paper: "No one has, as far as I am aware, repeated his (your correspondent's) experiments, nor has any one essayed to make an analysis of the evidence he has furnished."

In reply to this your correspondent refers me to an article by Kartulis in the *Ctrbl. f. Bact. u. Parasitenk.*, p. 289, 1887, in which he says I will find a full confirmation of the results previously arrived at by him. I have not by me the letter in which your correspondent kindly sent me the bibliography of pink-eye, but I am sure this citation was not among the others. In the publication above referred to I find an article by Kartulis, of Alexandria, on the Ætiology of Egyptian Catarrhal Conjunctivitis. Kartulis, without giving in detail his methods, simply states that he found a bacillus in this disease, and simply gives some slight description of it. In so far as it is a bacillus and is found in the eye of catarrhal conjunctivis, I am willing to admit that it bears some likeness to the so-called "bacillus Weeksii." The other marks which it possesses do not, in my opinion, strengthen the claims of your correspondent. Kartulis observes: "It is an important question whether our (Ger., *unsere*, meaning his own) bacilli are identical with those found by Leber, Kuschbert, and Neisser in xerosis of the conjunctiva."

He further remarks that these observers discovered in this affection micro-organisms similar to those of mouse septicæmia.

Your correspondent, in his reprint from the *Med. Record* of May 21, 1887, refers to a bacillus observed by Koch in Egypt in cases of catarrhal conjunctivitis, and opines that it is probably the same that he himself has described. Kartulis refers to this discovery of Koch, and says that the bacillus of Koch resembles that of mouse septicæmia in size, form, and situation.

Your correspondent states that Dr. Knapp showed him some specimens of microbes obtained from the deposits about the teeth in one case and from a corneal ulcer in another that in form resembled the small bacillus which he claims is the pathogenic microbe of pink-eye. Now, Kartulis thinks it a weighty question whether or not the bacillus he describes is identical with that of xerosis conjunctivæ, and he finds a distinct likeness between Koch's conjunctivitis bacillus and that of mouse septicæmia. Your correspondent considers Koch to have described the same bacillus that he has seen, and likewise considers Kartulis to have made a "full confirmation" of his (your correspondent's) results. Absolute identity is a very difficult matter to prove. I venture the moderate opinion that absolute identity is not proved in this case. One must be forgiven for being hypercritical in matters of science.

Kartulis, whose work was published in February, 1887, does not refer to the results of your correspondent, although his first communication on this subject was made in the *Archives of Ophthalmology* in 1886. Foreign writers are great sticklers in the matter of bibliography, and it is at least surprising that so important a claim as your correspondent makes has been overlooked by Kartulis. If any one else has made a "full confirmation" of the claims of your correspondent I am unaware of it.

Quoting in substance from the work of your correspondent, I stated he was unable to make a pure culture of his bacillus. Referring to this statement of mine, he says in his letter to you: "Since writing the articles referred to above I have produced a pure cultivation of the bacillus, photographs of which have been made." At the time of reading my article I was unaware of the existence of his pure culture. He might easily have stated this to me in his letter, but he preferred to keep it silent and produce with a flourish in his reply before the society photographs which he said showed pure cultures of his bacillus.

I am quite sure he had never up to that time stated publicly his success in obtaining a pure culture. But these things had no bearing whatsoever on the statements of my paper, since that was written before he had divulged his secret to the world.

That these photographs were shown at the Tenth International Medical Congress in Berlin, a thing to which your correspondent feelingly alludes, I take it, proves nothing more than many other demonstrations in medical matters that have been more conclusive to the authors or demonstrators than to others. Your correspondent goes on to say that the existence of these pure cultures was known to me before my article was published. Now to one who runs and reads this statement might easily be deceptive. As before stated, the first intimation I had of his pure cultures was that which I obtained when in his reply to my criticism he produced his photographs before the society. My paper was handed in to your Journal as it was read before the society, and I take it, it neither behooved me nor was it necessary for me to make any corrections or after-statements. His reply to me was given full justice in the report of the proceedings by the *Medical Record*, and it is my particular desire to call the attention of your readers to a clear statement of this point. It seems to me it became your correspondent to make this plain beyond peradventure.

Your correspondent quotes the following from my article: "The small bacillus (together with the clubbed bacillus) was found in the secretion in every case."

He writes in reply: "There is no authority whatever in my article for the clause included in parenthesis in this quotation."

On page 13 of this reprint from the *Medical Record*, May 21, 1887, he writes: "Having found a medium on which the bacillus would develop, although feebly, my next endeavor was to make a *pure culture.*" (Italics your correspondent's.) "The bacillus in the tubes was contaminated with a club-shaped [bacillus?] (or one that soon became clubbed) which developed about as rapidly as the small bacillus, and repeated endeavors to separate the two *proved fruitless.*" (Italics my own.) Further on he states that he was unable to separate the two, even though they were carried to the sixteenth generation.

Your correspondent refers to his test tubes, but, as these were inoculated originally from cases, the statement by inference holds equally good for them.

I admit freely that the "clause included in parenthesis" does not occur in his original, but its equivalent does, and that man must be narrow, hypercritical, and unreasonable who demands that a thing should always be said in the same language.

It is clear to my mind that there *is* authority for the "clause included in parenthesis," the statement of your correspondent to the contrary notwithstanding.

John Herbert Claiborne, M. D.

PRELIMINARY CAPSULOTOMY IN THE EXTRACTION OF CATARACT.

Syracuse, N. Y.

To the Editor of the New York Medical Journal:

Sir: In your issue of September 20th Dr. T. J. Tyner's interesting communication upon the subject of Preliminary Capsulotomy in the Extraction of Cataract contains the statement that he has been unable to find a precedent for the operation described. The same procedure, however, was described by Drake-Brockman in 1884 and possibly earlier; and by Hiemel, of Leipsic, in 1888. Drake-Brockman gives a complete statistical report of his cataract cases in the *Ophthalmic Review* (August, 1884, and November, 1888). He had, up to the date of his last communication, operated by this method two thousand one hundred and seven times.

The method is described under the name of "primary capsule rupture," a term which seems preferable to that of "preliminary capsulotomy," as the latter suggests an interval of time between capsulotomy and the extraction of the lens (as in preliminary iridectomy).

Hiemel's paper was read before the International Congress of Ophthalmology held at Heidelberg in 1888, and reference to it will be found in the *American Journal of Ophthalmology* for that year.

I was more particularly interested in Dr. Tyner's communication because three years or so ago the same idea occurred to myself, and I thought it original until shortly afterward I read the record of Drake-Brockman's immense experience in cataract operations. If one may judge from the brief notice of Hiemel's paper, it seems possible that he also was under the impression that his procedure was a new one. Of the value of the procedure Drake-Brockman's experience seems to leave no doubt.

F. W. Marlow, M. D.

Proceedings of Societies.

CANADIAN MEDICAL ASSOCIATION.

Twenty-third Annual Meeting, held at Toronto, September 9, 10, and 11, 1890.

The President's Address.—Dr. I. Ross, the retiring president, in his opening address, gave a *résumé* of the year's progress in medicine. He spoke of the success of the meeting of last year, which was held at Banff Springs, in the Rocky Mountains. The desirability of the establishment of a system of registration of medical degrees, uniform for the whole Dominion, was pointed out. At present, as the law now stood, a practitioner must take out a license to practice for each province. The system of contract work and supplying medical attendance to benefit societies at low rates of remuneration was condemned.

The Address in Medicine was given by Dr. Prevost, of Ottawa, who chose as his text the advances made in medicine recently by the aid of bacteriological research, alluding to the work of Pasteur and Koch. But first he dealt with the recent increase of our knowledge of nervous diseases and the improvements evident in the treatment of such diseases as hysteria and insanity. This paper was received with great interest, not only from its excellent character, but from the fact that the speaker, a Frenchman by birth and education, chose to use English in his address out of compliment to the nationality of the large majority of his hearers.

The Address in Surgery was intrusted to Dr. Chown, of Winnipeg, who, after some general remarks on the progress of surgery, approached the special subject he had chosen, the pathology and treatment of hydatid disease. In the Province of Manitoba there were very many Icelandic immigrants, among whom hydatid disease was very common. The speaker then narrated the history of a case of hydatids affecting the abdominal cavity and several of the organs. The abdomen was opened and the cyst removed. The address was illustrated with the exhibition of numerous preparations of cystic parasites.

The Address in Obstetrics was given by Dr. J. Chalmers Cameron, of Montreal, who selected the subject of Temperature in the Puerperal Period. It was necessary, he said, to have clear ideas respecting the normal and physiological before we could understand the abnormal and pathological. After describing fully the course of the temperature and pulse during the latter months of gestation, labor, and the puerperium, he drew the following conclusions: 1. The temperature of a healthy pregnant woman during the last four months is the same as in the healthy non-pregnant state. 2. Labor raises the temperature. The amount of rise depends upon the length and severity of labor, particularly of the second stage. It is higher in primiparæ than in multiparæ, higher after irregular than after regular labors. 3. In the first twenty-four hours after labor the temperature rises and then falls, the height it attains depending chiefly upon the time of day when labor terminates. The rise is greatest in labors terminating during the day, least in labors terminating during the night. 4. From the second to the eighth day the average daily temperature varies less than half a degree from day to day; but there is a diurnal variation of one degree to one degree and a half between the maximum and minimum of each day. The maximum daily temperature is usually at 10 A. M.; the minimum at midnight; the average at 6 A. M. and 8 P. M. The daily observations should be made at these latter hours. 5. The pulse falls steadily from the conclusion of labor to the end of the first week from 61 to 50. The fall is equally marked in primiparæ and in multiparæ. There is a difference of 17 between the maximum and minimum of each day. It is slowest at midnight, quickest at 8 A. M. 6. In hospital practice the best results show a normal temperature curve in about seventy per cent. of the cases. In private practice the ratio should be at least eighty per cent.

After showing the fallacy of popular notions respecting so-called milk-fever and ephemeral fever, it was contended that a rational treatment could only be attained when the profession grasped the fundamental fact that the normal temperature curve during the puerperium differed little from that of health, that lactation was a physiological process, unattended with fever, and that when febrile symptoms did occur, their explanation must be sought in some pathological condition, not in the establishment of a physiological function.

In describing the ætiology of fever during the puerperium the cases were divided into infectious and non-infectious. It was argued that septic conditions were far more common than was usually supposed, for septic wound infection might vary in the severity of its course and symptoms, like scarlatina, small-pox, or diphtheria. The *modus operandi* of septic wound infection was minutely described, and a short description given of the origin, symptoms, and course of vulvar, vaginal, and uterine inflammation, cellulitis, lymphangeitis, peritonitis, and acute septicæmia, illustrated by charts. The course of lung troubles, the exanthemata, erysipelas, diphtheria, etc., in the puerperal period was described and some differences of opinion were explained and reconciled.

Among the non-infectious febrile conditions, emotional fever, exposure to cold, and reflex irritation, such as from digestive disturbances, were fully considered and illustrated by charts and cases.

Since a high temperature during the puerperal period might mean a great deal or nothing, the necessity of a careful diagnosis was insisted upon before severe intra-uterine medication was adopted. Without diagnosis treatment was apt to be one of passive expectancy or else fussy meddlesomeness. In conclusion, a strong appeal was made for rigid antisepsis during the progress of labor, the accoucheur taking as much precaution with himself, his instruments, and the genital tract as if about to undertake a surgical operation. The use of lubricants, frequent or prolonged vaginal examination, and routine douching during the puerperium were deprecated. The use of corrosive sublimate (1 to 1,000) for the hands and external washings, 1 to 2,000 for vaginal douche after labor, the careful inspection of the vulvar and lower fourth of the vagina after labor, and the closing of tears and fissures, were strongly recommended. The routine use of the thermometer often gave the first warning of inflammatory mischief and enabled precautionary measures to be taken. Gynæcologists told a sad tale of the miseries and sufferings of women from neglected inflammatory troubles traceable to confinement, which could readily have been prevented. Such a record was not creditable. We should not merely be content that our patients recovered; we should be concerned as to how they recovered, and timely care and attention would insure comparative immunity from a host of distressing ailments which rendered the lives of women a burden; so it was our bounden duty as humane men and intelligent physicians to realize our responsibilities and adopt all reasonable precautions.

The Medical Section.—After the reading of the surgical address the sectional work began. The chair was taken by Dr. McPhedran, of Toronto, Dr. F. G. Finley having been appointed secretary.

Cardiac Complications of Gonorrhœal Rheumatism.—Dr. R. L. MacDonnell, of Montreal, read a paper in which he reviewed the literature of the subject and analyzed the histories of twenty-seven cases of gonorrhœal rheumatism treated in the wards of the Montreal General Hospital. Of these, there were six in which the physical signs of cardiac disease were found, but in three it was possible that an endocarditis from acute rheumatism or from scarlet fever might have been present. In the remaining three cases no other cause but gonorrhœal rheumatism was present. In the last case recorded the patient, aged twenty-two, while suffering from a urethral discharge, was exposed to cold, and had rigors and slight pains in the joints, principally in the knees. These symptoms were followed by præcordial pain and urgent dyspnœa. Physical signs of pericarditis were almost immediately discovered. Subsequently pleurisy developed and a murmur supposed to be of endocardial origin remained. The reader of the paper concluded from these observations that gonorrhœal rheumatism was sometimes, though very rarely, associated with affections of the endo-pericardium and the pleura.

Dr. J. E. Graham, of Toronto, was not prepared to agree with the reader of the paper as to the exact diagnosis of the last case cited. He thought it not improbable that the cardiac and pleural attacks were due to ordinary acute rheumatism, and that the pressure of the urethral discharge had no bearing upon the case. In support of this view he brought forward the fact that the joint pains were of a very trivial character and that it was not uncommon in cases of ordinary acute rheumatism to meet with severe cardiac symptoms where articular manifestations were almost altogether in abeyance. Another explanation of the occurrence of cardiac valvular affections with gonorrhœa might be found in the possibility that a recent gonorrhœa might light up an old endocarditis, just as in malignant endocarditis the seat of old standing disease on the valves was found to be the special point of attack.

Dr. MacDonnell said in reply that in some of the cases of supposed gonorrhœal endo-pericarditis the joint pain was entirely absent, and that, in the opinion of some of the writers he had quoted, notably Marty, joint affection was not considered a necessary middle term between the urethral discharge and the heart affection.

(*To be concluded.*)

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twelfth Annual Congress, held at Baltimore, on Thursday, Friday, and Saturday, May 29, 30, and 31, 1890.

The President, Dr. John N. Mackenzie, of Baltimore, in the Chair.

(*Continued from page 274.*)

Look beyond the Nose.—Dr. S. Solis-Cohen read a paper with this title. (See page 340.)

Dr. Roe: The communication which has just been read touches a subject upon which I have myself written a paper; and I have but little more to say on the topic discussed. One point, however, I may refer to: It is the nervous symptoms of nasal obstruction. Headache, of course, always indicates something wrong, some abnormal condition; but any man who attempts to ascribe a headache in every instance to a single specific cause should be regarded as scarcely less abnormal than the headache itself. There are unquestionably a great many headaches produced by diseases of the nose, but this is very far from saying that all headaches are thus caused. We see two cases of headache attended by precisely the same condition in the nose—for example, pressure of a turbinated body upon the septum. In one case the removal of the obstruction will relieve the headache at once, in the other the same treatment will have no effect upon the headache. The explanation of this is that in the latter case the headache is due to some other cause. Where the headache is relieved by an operation it is probably because there was some pressure upon nerve-filaments, the irritation being transmitted to the brain by nerve connection; the operation cures by removing the source of irritation. The result, however, can not always be predicted. We can not always promise that the headache will at once disappear, but the operation is proper under the circumstances. I have seen many cases in which complete relief from a persistent headache followed the removal of a nasal obstruction. About two weeks ago a man with nasal difficulty came to me for treatment. He said nothing about headache, and I did not ask him regarding such a symptom.

Having been relieved of the abnormal condition in the nose—there was marked pressure between the middle turbinated body and the septum—he returned to me very grateful and said that I had cured his headache also. It seemed that for three or four years he had suffered from headache, and he had been told by a physician, who had unsuccessfully treated him for it, that it was constitutional, and he had made up his mind to bear it for the rest of his life. Thinking it incurable, he said nothing to me about it, and was much surprised to find after the operation that it had disappeared. Of course, the facts in Dr. Cohen's paper go without saying. It is well known that we may have a variety of symptoms from the same cause, and a local condition does not always give rise to the same nervous disturbance. The nasal obstruction may be the primary cause of a headache, or it may be only an incidental concomitant.

Dr. Jarvis: The last speaker has recalled to my mind a thought which may throw some light upon the fact that nervous symptoms appear in one person and not in another. I have seen a large number of such cases in dispensary and private practice and have often noticed this phenomenon. Among the poorer classes we find marked distortion of the nasal septum, and nasal obstruction is very common, but it is apparently not attended by much discomfort, since the nervous symptoms which are usual among the wealthy class are entirely wanting. In reading Stanley's account of his African expedition, I was much interested in his statement that the native Africans paid but little attention to their wounds; and even when severely lacerated and torn, they acted as if they were mere scratches; the wounds, furthermore, healed quickly, in marked contrast to those of the whites of the party, who suffered seriously from the slightest injuries. The blacks for generations had been used to exposure of their bodies, and in consequence their nervous system had become accustomed to injuries of this kind —in other words, they had become less sensitive to external irritation. There is just this difference between the educated or wealthy and the laboring classes: the latter are far less susceptible to external irritations than the former, on account of the inertia of their nervous system. I have found a slight amount of nasal obstruction in a brain-worker producing a great deal of distress, headache, etc., while a much greater amount in a laboring man may give rise to no discomfort at all. The nerve symptoms are due to the increased susceptibility of the central nervous system to peripheral impressions.

A Case of Myxoma of the Naso-pharynx in a Child Six Years Old.—Dr. Alexander W. MacCoy read a paper on this subject. (See page 341.)

The President said that he had reported two cases of myxoma and had referred to them in Dr. Keating's *Cyclopædia of Diseases of Children.* "They occurred in the same family, in brother and sister; one was four years of age and the other six. In the one, the mother had noticed something protruding from the nose at one year of age, in the other the growth was probably congenital in origin. I removed both with the cold wire snare. These growths in children are not common. Morell Mackenzie in all his large practice never saw one under the age of sixteen years. Bartholini and other older writers reported cases of polypus in children, but in those days the diagnosis was not made as carefully as at present, and the distinction was not clearly drawn between these cases and simple hypertrophy."

Dr. Swain: This tumor has the appearance of a fibro-myxoma. I have seen such a case in a child eight years of age. I do not know the outcome of it, but think it may be of interest to mention it in this connection.

A Case of Fibro-sarcoma of the Right Nasal Fossa with Unusual Clinical History.—Dr. C. H. Knight read a paper with this title. (See page 342.)

Dr. Bosworth: The author takes the ground in this paper that the more radical operation is indicated in sarcoma of the naso-pharynx. In this I take issue with him, and regard the question as far from being settled. The only case of sarcoma of the naso-pharynx followed by recovery that I know of was one in which a severe operation could not be borne and the patient was treated with the mildest measures only. I reported this case to the American Medical Association several years ago. Butlin, in his monograph, says that sarcoma at first is a purely local disease. I hold that if we treat it as a local disease we are on safe ground. At the present time we can get at all parts of the nose without resorting to the operations mentioned; the old operations are no longer necessary. The best results have followed the plan of attacking the growth through the nose and, by careful manipulation, taking it away piecemeal. In my own experience, sarcoma is best treated in this way, using the cold wire snare. In carcinoma it does not matter what is done; my experience is that no form of treatment is of service.

Dr. Mulhall: I wish to place upon record a case bearing some resemblance to the one which Dr. Knight has just reported. It was one of small-celled sarcoma invading both nostrils. The case also has some bearing upon the question of the traumatic origin of these growths. The patient, a man about fifty years of age, had been injured by a fall upon the railroad, striking his nose upon a tie, about a year before the disease appeared, and he attributed the disease to the fall. He came to me with a mass of bleeding, fungous material projecting from both nostrils. Upon touching it, hæmorrhage was caused. I questioned if any operation would be of service, but I advised the removal piecemeal with the galvano-cautery and discountenanced any radical operation. After I succeeded in clearing one nostril, he gave up coming to me, and resorted to the use of morphine. He died in about four months with repeated hæmorrhages and inanition; the disease lasted about a year altogether.

Dr. Bosworth: The case is reported as one of fibro-sarcoma. Was there any change in the character of the tumor or its appearance corresponding with the occurrence of malignancy?

Dr. Knight: While under my observation the neoplasm was fibro-sarcomatous. In speaking of the "radical operation," I refer not to Chassaignac's or Ollier's, but rather to one like Maisonneuve's, which exposes the region to its utmost limit. It may be true that carcinoma is better let alone. Is it not equally true in sarcoma that a policy of non-interference is more judicious than a prolonged series of nibblings at the surface of a growth which is steadily progressing beyond our reach?

Adenoid Tissue in the Naso-pharynx and Pharynx; Preliminary Report.—Dr. H. L. Swain, of New Haven, read a paper on this subject. (See page 316.)

Dr. Bosworth: Dr. Swain's paper is very interesting and timely. Just now considerable attention is directed to the lymphatic tissue in the vault of the pharynx, the base of the tongue, and in the fauces. What are its functions? what its pathological relations? but, prominently, what constitutes a pathological condition of this structure? I confess that I do not look with much favor upon the speculations which have been advanced as to the function of this tissue. For instance, when Scanes Spicer says that it is placed there to drink up superfluous fluid, it does not, in my opinion, rise to the dignity of a physiological theory; nor, when Killian says it is there in order to destroy micro-organisms, do I regard it as much more rational. It is very evident that it can act upon only a very small part of the inspired air, and can exercise only a very slight effect in this way. In diseased conditions it might, on the contrary, act as traps for pathogenic micro-organisms, and afford a suitable culture ground, as in diphtheria. As a matter of fact, many of the diseases of young children are contracted in this way, such as scarlet fever, measles, diphtheria, follicular amygdalitis, etc. All of these are evidently due in many cases to the fact that these disease germs are introduced and developed there. Again, in confirmation of Killian's theory, may it not be that this function of destroying organisms is itself destroyed by the diseased condition of the glands which arrests their function? Another important question to be solved is, What constitutes a diseased condition of the adenoid tissue in the vault of the pharynx? Are adenoid growths abnormal? Are the small pearly bodies so often seen there evidence of disease? Again, the manifestations of a catarrhal process in this region are different at different ages; up to fifteen or twenty years of age this region is the most frequent source of a catarrhal discharge; from twenty to forty, intranasal disease is the rule; while from forty to sixty it is back again in the naso-pharynx. In children the disorder is due to hypertrophy of the lymphatic structures in the vault of the pharynx; in adult life the adenoid tissue is shrunken up, and atrophic changes occur. Another problem is, Where does all the mucous secretion come from in cases of naso-pharyngeal catarrh? Adenoid tissue does not secrete mucus. What is the possible source of the discharge? It is possible that the pain may be due to the shrinkage of the adenoid tissue which imprisons the terminal fibers of nerves; but where does all the secretion come from? I do not believe Schwalbach's theory; it is not reasonable, and I can not accept it. At the opening of a recent meeting of the British Laryngological Association, Mackenzie Kennedy said that if any one could tell us how to cure naso-pharyngeal catarrh he would confer the greatest benefit upon laryngology. We treat it, it is true, after a fashion, but, after all, do we know anything about it?

Dr. Langmaid: I would ask Dr. Swain to illustrate his remarks upon the blackboard. What is meant by the statement that when there is a demand by the blood for more leucocytes there is a diminution of adenoid tissue?

Dr. Bosworth: I should like to ask, also, if the author based the remark that adenoid-tissue function was to make blood upon any personal observation or experiment?

Dr. Swain: In answer to Dr. Langmaid, the only observations I know of are those made by Stöhr and two made by myself. Stöhr found that in a case of pyo-pneumothorax, upon examination of the throat, there were hardly any follicles in the adenoid tissue; and, secondly, that the number of leucocytes lying in the epithelium was very much less. In a case of leucocythæmia he made similar observations, although the appearances were not so well marked. My own observations were in a case of bone tuberculosis, and in one of pure pulmonary tuberculosis. I found in the lingual tonsil there was great diminution and atrophy of gland tissue at the base of the tongue. The conglobate glands were very much atrophied.

With regard to the point raised by Dr. Bosworth concerning the source of the great quantity of secretion, in the observations made by Killian and in my own there was no connection found between the amount of increase in the adenoid tissue and that in the racemose glands, increase in the latter not always following the same in the former. As to the explanation referred to by Dr. Bosworth, why it was necessary for the lymphoid tissue to go through this process of diminution and atrophy, I can not say anything, except that it *is* necessary. We see it so much in our cases that we must believe it to be the inevitable course of adenoid tissue in this situation to undergo this degeneration and atrophy. I may not have made it very clear in my paper, but I think the point made by Killian a very important one.

Supplemental Report on Cartilaginous Tumors of the Larynx and Warty Growths in the Nose.—Dr. E. Fletcher Ingals, of Chicago, read a paper on this subject. (See page 345.)

Dr. Bosworth: In connection with this subject I will refer casually to a case I saw four months ago. It was a broad papilloma upon the tongue and palatal arches in a child three months of age. I applied thuja occidentalis, but without any effect whatever. The growth subsequently disappeared under the use of glacial acetic acid. I thought this case might be interesting as showing the failure of thuja. These growths in the nose are quite frequent. I have seen half a dozen cases within the last year; they are probably usually mistaken for small polypi. In my cases I snared them off and cauterized the base with chromic acid. My own experience has failed to show me where the reputation of thuja has been maintained.

Dr. Jarvis: I have had some experience in connection with these growths, especially in their treatment with chromic acid, when occurring in the larynx. I was perhaps the first to point out the fact that this agent would completely remove the growth as well as prevent its recurrence. Hering afterward came out in its favor. There is one point about it that should be mentioned—namely, the advantage that it does not reach beyond the papillomatous tissue in its effects; it furthermore does no harm to the healthy mucous membrane in the immediate vicinity of the growth. This is due to the diversity of the tissue. Cartilage is not affected by small applications of the acid. It acts by progressive superficial sphacelation. The effect is regulated by the quantity used; if small, no danger can follow. I have seen only two cases of nasal papilloma. One I should not call a case of true papilloma. It was in a boy about sixteen and was a modified polypus—a polypoid growth, in fact. It had not the raspberry-like, irregular surface, but it had been altered by previous applications. I called it a teleangeiectatic polypus. It bled easily. The other case I at first considered one of true papilloma, but afterward came to the conclusion that it was a case of epithelioma, as I think many of them are. It was not changed by long treatment, and extreme radical measures had no permanent effect upon it.

Dr. Mulhall: There seems to be some confusion in this discussion between warty growths and papillomata. I recall a paper by Hopmann, who professed to have seen a hundred and twenty cases of warty growths in the nose. I wondered why I had never seen a case. A patient applied to me a short time ago for treatment for "warts" in his nose, which I found to be papilloma, such as we find in the larynx. It grew from the anterior portion of the middle turbinated bone, and looked exactly like a small bunch of grapes. I saw the case just before I left, and operated upon it. It was readily removed, and the operation afforded much relief to the breathing. I desire to place this on record as the first case I have seen of papilloma of the nose. (The speaker presented a specimen of nasal papilloma.)

The President inquired of Dr. Mulhall if the growth in his case was large and if it might not have been a portion of the erectile body.

Dr. Mulhall: The growth was large and could be withdrawn from the nose partially, but again retracted; it was somewhat elastic. The middle and upper turbinated bodies were free.

The President: I have seen prolapse of the mucous membrane from the anterior portion of the turbinated body which could be withdrawn from the nose in the manner just mentioned, and which had been mistaken for polypus.

Dr. MacCoy: I can recall three cases of warty growths, all growing in the vestibule, having the appearance already described. I removed them with the galvano-cautery. There was some tendency to return, but they were all ultimately cured.

Dr. Delavan: One of the interesting features of this discussion is the general consensus of opinion as to the rarity of the case. I was much surprised at the statements of Hopmann, and think that there must be something peculiar in the cases coming to him, as in my experience papilloma in this situation is a rare disease.

The President,: I fully agree with Dr. Bosworth that these papillomatous tumors are likely to grow just within the vestibule, and are more common than is generally supposed; but growing further within the nose they are rare. I can recall only two cases of this kind in my experience. I think the remark of Dr. Jarvis very well founded and appropriate. Where we find a papillary growth with a broad base and a tendency to bleed we should be on the lookout for carcinoma. I think that Hopmann mistook for papilloma the changes that occur in the ordinary transition from the secondary to the tertiary form of chronic rhinitis. Cross-sections of these bodies under the microscope resemble papillomatous tissue, whereas they actually consist of turbinated erectile tissue. I think that Hopmann, in some cases at least, mistook these outgrowths for papillomata. I desire to call attention to an important clinical point: Sometimes patients complain for a long time of a sense of fullness of the nostril and other symptoms of hypertrophic catarrh, and after a while expel little pieces of flesh, as they term them, from the nose. Afterward they find that they can breathe better, and that the obstruction in the nose has disappeared. The reason is, that under the influence of the atrophic process these little bodies are separated and slough off. It does not mean that the patient has gotten well, but simply that the hypertrophic process has gone on to atrophy. Under the microscope, sections of these bodies resemble papillomatous growths in structure, and may be mistaken for them, while they are really the results of hypertrophic degeneration.

Dr. Ingals: I think that this mulberry-like appearance of the turbinated body is probably the reason that Hopmann, and probably some others, have found so many so-called cases of papilloma of the nose, as a mistake might easily be made. I have often seen this condition, which is not that of a true papilloma, but I have never seen but the one reported in which the growths had the appearance of warts. In this particular case the growths, which recurred many times, did not resemble papillomatous tumors in the larynx in any way. They grew first from the septum, and afterward from the turbinated body, and had all the appearance of warty growths as we commonly see them upon the hands.

As to the thuja occidentalis: I did not wish to try to prove that it had any special value, though this has been alleged for it; but I must say that the patient did much better after using it than he had been doing before. It is possible that it may make some difference whether a fresh tincture is used or not. The preparation I employed was prepared at the time from the fresh leaves of the arbor vitæ.

Hoarseness and Loss of Voice caused by Wrong Vocal Methods.—Dr. S. W. Langmaid, of Boston, read a paper on this subject. (To be published.)

Dr. Delavan: It will be generally conceded that no higher authority than Dr. Langmaid could discuss the questions presented in this paper. To it we can only add the testimony of our own experience. From the statements of noted singers who have been trained under the system which the reader of the paper describes, as well as from my own personal experience in practical vocalization, I am able to confirm the views which he has expressed. Not infrequently cases have come to me complaining of some laryngeal difficulty in which a diagnosis from simple inspection of the larynx was impossible, and a correct solution of the matter only arrived at by a careful study of the vocal methods of the patient and the discovery of its defects. In many instances faulty voice-production will be found to be the true explanation of an otherwise inexplicable difficulty. Of course it is of great importance for us to understand our cases in order that we may properly treat them, and, understanding them, to see that the treatment employed be not confined to local applications, but that the faulty methods of vocalization be corrected under the training of a competent teacher. Again, the services of the vocal instructor are of great value in the treatment of certain chronic conditions of laryngeal disease. I am in the habit of referring patients to a skillful teacher for the purpose of obtaining systematic exercise of the laryngeal muscles, just as in appropriate cases the surgeon resorts to passive motion. It is to be hoped that Dr. Langmaid will continue to offer us such studies as this through his work. Aided by that of Dr. French, we should be in a position to recognize and successfully treat many cases which now are wholly misunderstood.

Dr. Hinkel: I am reminded by the paper of a class of cases in which I have taken much interest—cases in which there is vocal disability due to some structural defect in the nasal passages or naso-pharynx. Such patients suffer injury to the throat and voice from the demands made upon the vocal organ beyond what is customary in speech, even though there be nothing faulty in the vocal method. It is of importance to recognize this defective condition, for many teachers and pupils are puzzled to account for the failure of promising voices in which the defect is due to a lack of co-ordination, as it were, between the primary tone-organ and the resonating apparatus. The removal of a septal ridge or of adenoids not infrequently restores the power and quality to the voice. I recall a tenor who gained a minor third in his compass after the removal of a septal ridge from which he had suffered no inflammation or obstruction of which he was aware.

Dr. Mulhall: The matter which the last speaker refers to is hardly germain to the subject of the paper. If we were to go into the discussion of the effects of abnormities of the air-passages upon the formation of tone we should hardly get through with it before our final adjournment. There is one point, however, that I would like to have discussed. It is the so-called "abdominal" method of singing or managing the voice. I wish that every singing-master could have this paper of Dr. Langmaid's put into his hand. I agree with the essayist that any singer who is *conscious of effort above the clavicle* while singing is using a wrong method. I wish to speak of the abdominal method. We notice with what ease the tenor of the Italian opera produces the high notes without even flushing his face, and he can sing the whole evening without apparent fatigue, because he has had the benefit of proper training in the formation of tones and uses his abdominal muscles in singing. I recall the case of a theological student who found in preaching that he got tired in half an hour and lost his voice. I found that he was using his sterno-cleido mastoid and other neck muscles in producing his pathetic effects. I instructed him to concentrate his mind upon the action of his abdominal muscles in public speaking and to forget his throat. He practiced this and taught himself this method that I have described, and found that he could preach for two hours at a time without any hoarseness whatever. The method of using the voice by which the very walls of the theatre are made to vibrate with the volume of sound is familiar to those who attend Italian opera; the effects are produced by the action of the abdominal muscles and the diaphragm. Many singing-teachers in this country apparently do not know this. The teachers in the theological seminaries do not know how to instruct students in the proper use of these muscles. I might mention a case which may not be exactly germain to the subject. A prominent teacher in St. Louis sent one of her pupils to me because she could not get beyond a certain note in the scale. Upon examination, I found a very peculiar condition. As the voice rises in the scale the epiglottis usually becomes more and more erect, becoming vertical with the high notes. This young lady had enlarged papillæ at the base of the tongue, which were so large as to interfere with the epiglottis and prevent it from erecting itself to form the notes. I removed these growths with a wire snare, and it added two notes to her upper register and gave a really brilliant result.

Dr. Mackenzie: Faulty training must be recognized as a cause of vocal defects, and in overcoming them much time and patience are needed. I agree with Dr. Mulhall in regard to bridling the tongue. The isolation of the naso pharynx is due to the rising of the dorsum of the tongue to meet the descending walls of the pharynx and uvula. The motions of the tongue have a great deal to do with the formation of tones, and anything encroaching upon the naso-pharynx or the tongue is an important factor in the destruction of the mechanism of voice. The instruction given by singing-teachers to keep the tongue upon the floor of the mouth is not physiological. It checks and cripples the movements of the throat muscles, the tensor palati, and the middle constrictor of the pharynx; even the buccinators are under restraint. It is the opinion of Meyer, of Zurich, that the middle constrictor of the pharynx is not concerned in swallowing, but is concerned in speech and in singing, therefore a very important agent in vocalization. In the production of certain notes there is a pushing forward of the middle fibers of this muscle toward the palate. It has been shown conclusively that this bulging of the middle constrictor muscle, upon which the soft palate rests, is of special use, as together they produce a complete isolation of the mouth and nose in the production of certain notes. With regard to Dr. Hinkel's observation, the fact is already well known. With regard to Dr. Mulhall's remarks, it was Mandl who pointed out in his writings with more clearness than the others the importance of the abdominal method. In the Italian school great attention is paid to this method of developing the abdominal muscles. The suggestion of Dr. Mulhall is a very proper one, and should be put in operation in our daily work; by it we may succeed in curing cases that otherwise we could not benefit.

Dr. Langmaid: I feel gratified by the discussion which has been given to the subject, which I have had under consideration for a long time. I have said in my paper that there are wrong vocal methods, and I have been asked to formulate the right vocal method. I know many wrong ones from the effects that are produced by them; what is the right one I hope to be able to state at some future time. With regard to the class of singers referred to, who are conscious of effort and difficulty in the use of their voice, we must be careful in our advice and prognosis. I have been impressed for years that the method of holding the tongue down in the production of vocal sounds is a wrong one. I made many observations during several years, and became finally convinced that this was the source of all the difficulty in certain cases. I found patients relieved by correcting this method, so that I am satisfied that this was a correct view. Dr. Hinkel referred to the fact that nasal stenosis produces changes in the voice, and Dr. Mackenzie seems to agree with him that such disorders are frequent causes of voice difficulties. I am satisfied that Dr. Hinkel is correct in his observation upon his case, but I am not satisfied that it is by any means a great cause of voice defects. A partial filling up of the naso-pharynx is not constant in its effects upon the voice; it may or may not impair it. Of course, if the pharynx were completely filled it would affect the voice, but there is no evidence that a partial filling up would have any such consequences. I entirely indorse the remarks by Dr. Mulhall with regard to the taking of the attention away from the throat; it is very important to a correct vocal method. I also approve his remarks upon the abdominal method. This is very interesting, and I intend to make some observations upon breathing if I live long enough. There is much to be learned with regard to correct methods of breathing. With reference to the case of the clergyman, the observation was a just one. I have elsewhere said that the laryngeal muscles were in position to place the vocal organs in proper place to form a given tone without the wind-blast. The wind-blast does not produce the pitch; the larynx is properly adjusted for the tone before the wind-blast reaches it. If we had to depend upon the delicate adjustment of the wind-blast, how many would be able to sing in tune? The muscles instinctively put the cords in position to produce the note, which is virtually produced before the wind-blast comes, which puts them in vibration and gives out the tone. When the wind-blast is strong it seems as if the cords would not be able to resist it, and yet they do not yield. The station, as I call it, is immovable when the wind-blast comes; the muscle does not give at all; if it did, the tone would change and be either sharp or flat. Therefore the distinction is that the note is not made by the wind-blast, but it is carried on by the wind-blast, and intensified by increase of the wind-blast. Now the question comes up, "What portion of the abdominal muscles should be brought into play to produce the result most effectively?" This I will reserve for future consideration. With regard to the case of Dr. Mulhall, I described one exactly similar to his. I made one attempt to remove the growth and told the patient to come back, but he never did. The growth in this case had already decidedly impaired the mobility of the epiglottis. In reply to Dr. Mulhall, I might state that in a paper by Morell Mackenzie upon the voice he says that some singers protrude the abdomen and some retract it. With regard to the tongue, we must remember that tongues are of different shapes naturally; some are flat and broad, others narrow or wedge-like. Because some singers sing with a flat tongue, it does not follow that others must do it. I am satisfied that the position and shape of the tongue depend upon the motions of the muscles of the larynx. The fact is that some singers sing with the back of the tongue raised, and it is also a fact that others, equally good, sing with the tongue flat.

The President: What do you think of the method in which the tone is thrown to the bridge of the nose?

Dr. Langmaid: This question might be construed the wrong way. That the resonance is universal and involves the hard parts and also the soft parts is true; that the voice which is not reflected is a dull voice, as the singer says, is true; but that these are the only parts which reflect the voice is certainly not true; ill results to the laryngeal muscles and the voice will come from an attempt to follow this method. I have endeavored to confine my paper to one form of wrong method of voice training, so that I could not be contradicted without having an answer prepared. By keeping on one subject I hoped to avoid vagueness in the discussion which would follow.

The President: Do you not think that the nasal and accessory chambers are too much neglected in the usual teaching of singing?

Dr. Langmaid: Not by the best teachers. The methods pursued are those intended to develop the best acoustic qualities. For the same reason the Italians have always made use of the resonance of the head. If you choose to call it nasal resonance you may do so.

Unilateral Paralysis of the Lateral Crico-arytænoid Muscle.—Dr. Ingals read a paper with this title. (See page 346.)

Dr. Bosworth: There is one interesting point which occurs to me. In several cases of paralysis of one side of the larynx, with complete loss of voice, and in two instances of falsetto voice, the voice afterward became almost absolutely normal; the voice returned, although the paralysis persisted. This was accomplished by the healthy cord swinging over to the paralyzed side so as to make up for the loss of power on that side.

A Case of Unilateral Paralysis of the Abductors of the Larynx, the Result of an Attack of Bulbar Disease with Unusual Symptoms.—Dr. F. H. Bosworth, of New York, read a paper with this title. (To be published.)

Dr. Westbrook: I should like to ask the author of the paper if he would not consider it possible that the short duration of the motor paralysis, the suddenness of onset, and subsequent history of the case, might rather tend to exclude the idea of lesion of the medulla. A lesion of the medulla sufficient to cause so extensive a paralysis, to give complete hemiplegia, I should not think could be recovered from so readily. I should think that a case like this might be accounted for on the supposition of an embolus passing into the middle cerebral artery, or a thrombus in the sinus or in one of the other vessels at the base. An embolus or thrombus affecting the internal capsule might account for the paralysis. But the whole thing might be due to a tumor or clot in one of the venous sinuses at the base of the brain. It seems more probable that it was of this character than that it was a lesion of the medulla itself; a lesion of such extensive nature as this must have been, occurring near the medullary center for respiration and the vaso-motor center, would have been likely to be quickly fatal. At all events, the patient would not be likely to recover so completely or quickly.

Dr. Bosworth: In reply to the question, I would say that there is no doubt about the bulbar nature of the lesion in view of the extent of the paralysis. There was loss of deglutition and of power in other muscles supplied by the eighth pair of nerves; the laryngeal paralysis with hemiplegia all point to the bulb or the origin of the eighth pair of nerves in the floor of the ventricle. The extent of the case, the history of a chronic suppurative process in a closed cavity, suggest thrombosis of one of the small arteries, from the basilar supplying the medulla. The absorption of the embolus would account for the rapid recovery, for the occurrence of softening would naturally take some time. An interesting point is the occurrence of hemiplegia. I recall no case on record in which thrombosis in the medulla caused hemiplegia, which makes this case especially interesting. There was also some cervical adenitis, which still further supported the view of lesion at the base and in the cerebellum.

Book Notices.

International Atlas of Rare Skin Diseases. Editors: Malcolm Morris, London; P. G. Unna, Hamburg; L. A. Duhring, Philadelphia; H. Leloir, Lille. I and II. Philadelphia: J. B. Lippincott Company, 1889.

The issue of this work, to which we have before alluded, indicates the cosmopolitan tendency of medical literature. The description which accompanies each of the plates is given in English, French, and German, first in the language of the author, which is then translated, so that a knowledge of the European languages is not necessary for the complete enjoyment of the work. Parts I and II contain excellent presentations and descriptions of lymphangeioma circumscriptum, ulerythema acneiforme, lupus semisclerosus linguæ, sarcoma pigmentosum diffusum multiplex, keratodermia symmetrica erythematosa, angeiokeratoma, and ulcus molle mammæ. It would be difficult to find better and more life-like presentations of these diseases, and the work should certainly be in the possession of every dermatologist.

Diseases of the Rectum and Anus, their Pathology, Diagnosis, and Treatment. By Charles B. Kelsey, A. B., M. D., Professor of Diseases of the Rectum at the New York Post-graduate Medical School and Hospital, etc. Third Edition, rewritten and enlarged. With Two Chromo-lithographs and One Hundred and Sixty-eight Illustrations. New York: William Wood & Co., 1890. Pp. x–483.

The third edition of this well-known work comes to us revised and considerably augmented. We note in the chapter on hæmorrhoids that the author still views Whitehead's operation with a disfavor that is not entertained by many excellent surgeons. The chapters on the treatment of benign and malignant strictures of the rectum, and on the formation and closure of artificial anus, have been completely rewritten. While the author believes that in certain cases lumbar colotomy is particularly applicable, yet his preference is for inguinal colotomy; and he wisely urges that this operation should not be a *dernier ressort*, but a measure that should be used early to delay the course of malignant disease and often to cure non-malignant troubles. The sections on enterorrhaphy and the closure of artificial anus explain the latest operations for these conditions.

The volume is excellently illustrated, and is virtually a new work.

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of Practical Therapeutics, with Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M. D. (Univ. of Pa.), B. Sc., Clinical Professor of the Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc. Philadelphia: Lea Brothers & Co., 1890. Pp. vi–17 to 632. [Price, $3.75.]

Salol in Acute Tonsillitis and Pharyngitis. By Jonathan Wright, M. D., of Brooklyn, N. Y. [Reprinted from the *American Journal of the Medical Sciences.*]

A Classification of Intra-nasal and Naso-pharyngeal Diseases. By Lennox Browne, F. R. C. S. Ed., etc. [Reprinted from the *Journal of Laryngology and Rhinology.*]

An Analysis of Some of the Ocular Symptoms observed in So-called General Paresis. By Charles A. Oliver, M. D., Philadelphia. [Reprinted from the *Transactions of the American Ophthalmological Society.*]

An Explanation of the Phenomena of Immunity and Contagion, based upon the Action of Physical and Biological Laws. By J. W. McLaughlin, M. D., Austin, Texas. [Reprinted from the *Transactions of the Texas State Medical Association.*]

Spinal Surgery. A Report of Eight Cases. By Robert Abbe, M. D. [Reprinted from the *Medical Record.*]

Address in Hygiene. By Thomas J. Mays, M. D., of Philadelphia. [Reprinted from the *Transactions of the Medical Society of the State of Pennsylvania.*]

The Relation of Eye-Strain to General Medicine. By George M. Gould, M. D., Philadelphia. [Reprinted from the *Medical News.*]

Transactions of the Association of American Physicians, Fifth Session, held at Washington, D. C., May 13, 14, and 15, 1890. Volume V.

Nouvelle iconographie de le Salpêtrière, clinique des maladies du système nerveux. Publiée sous la direction du Professeur Charcot (de l'Institut), par Paul Richer, Gilles de la Tourette, Albert Londe et Georges Guinon. Troisième année. Juillet et août, No. 4. Paris: Lecrosnier et Babé, 1890.

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M. D., LL. D., Professor of Practice of Medicine and of Clinical Medicine at the Jefferson Medical College, Philadelphia. Illustrated with Engravings on Wood. Seventh Edition, revised, Philadelphia: J. B. Lippincott Company, 1890. Pp. 16–17 to 995. Price, $6.]

Dust and its Dangers. By T. Mitchell Prudden, M. D., etc. New York: G. P. Putnam's Sons, 1890. Pp. 111.

A System of Oral Surgery; being a Treatise on the Diseases and Surgery of the Mouth, Jaws, Face, Teeth, and Associate Parts. By James E. Garretson, A. M., M. D., D. D. S., President of the Medico-chirurgical Hospital and Emeritus Professor of Oral and General Clinical Surgery in the Medico-chirurgical College, Philadelphia, etc. Illustrated with Numerous Wood-cuts and Steel Plates. Fifth Edition, thoroughly revised, with Additions. Philadelphia: J. B. Lippincott Company, 1890. Pp. xliv–25 to 1364. [Price, $9.]

Massage. A Primer for Nurses. By Sarah E. Post, M. D. Lectures before the Training Schools for Nurses connected with Bellevue, Mt. Sinai, and St. Luke's Hospitals, New York; also with the Memorial Hospital, Orange, N. J. New York: The Nightingale Publishing Co., 1890. Pp. 9 to 47.

Brain Surgery, with Report of Eleven Cases. By H. O. Walker, M. D., Detroit, Mich. [Reprinted from the *Medical and Surgical Reporter.*]

A Few Words on Vaccination. By Major Greenwood, M. R. C. S., L. R. C. P. Lond. Second Edition. London: Douglas & Co. [Price, 6*d.*]

Description of a Series of Tests for the Detection and Determination of Subnormal Color-Perception (Color-Blindness), designed for Use in Railway Service. By Charles A. Oliver, M. D., of Philadelphia. [Reprinted from the *Transactions of the American Ophthalmological Society.*]

Some Points in the Treatment of Gonorrhœa. By Gardner W. Allen, M. D. [Reprinted from the *Boston Medical and Surgical Journal.*]

A Preliminary Study of the Ptomaines from the Culture-Liquids of the Hog-Cholera Germ. By E. A. v. Schweinitz, Ph. D. [Reprinted from the *Medical News.*]

Report of the First Annual Commencement of the Training School for Nurses of Wilkesbarre City Hospital, June 18, 1890.

Zur operativen Entfernung eingeklemmter Gelenkmäuse des Kniegelenkes. Von Prof. Dr. Max Schüller in Berlin. [Sonderabdruck aus der *Deutschen medicinischen Wochenschrift.*]

Neue Beiträge zur Kenntniss der syphilitischen Gelenkentzündungen. Von Dr. Friedr. Rubinstein (Berlin). [Separat-Abdruck aus No. 16 des *Aerztl. Praktikers.*]

Zur Behandlung der gonorrhoischen Gelenk- und Schleimbeutelentzündungen. Von Dr. Fr. Rubinstein in Berlin. [Sonderabdruck aus *Therapeutische Monatshefte.*]

Miscellany.

The American Orthopædic Association.—At the recent meeting, the president, Dr. De Forest Willard, of Philadelphia, after welcoming the members, narrated his experiences in the observation of orthopædics in Europe during the past summer. He congratulated American orthopædic surgeons upon their decided superiority as regarded the application of general and surgical knowledge and the benefit to be derived from operative measures in the correction and relief of deformities. The safety, rapidity, and ease with which many bodily defects could be rectified by the knife and chisel, and the great advances made in the practice of antiseptic surgery, were, as a means of relief, more fully appreciated by Americans than by others. He would, however, give all credit to Macewen for his advocacy of osteotomy, while to Lister belonged the honor of securing that advance in surgery which in its varying applications had revolutionized surgical practice. In regard to mechanical advances, the invention and application of mechanical measures for the correction of deformities, for securing rest, for traction, for immobilization, and for the proper treatment of joint diseases, Americans could justly maintain that they were in the first rank. He then alluded to the orthopædic section of the International Medical Congress, which had been established through American efforts. The most novel idea associated with this particular branch of the work shown at the exhibition of Berlin was the ivory joints of Gluck by which he proposed to replace the excised portions of bone. These joints were intended to remain permanently in position, and to maintain the proper functions of the limb. While the subject was only yet in its experimental stage, in both theory and practice, yet he deemed it worthy of consideration. Dr. Bely's apparatus for the correction of deformities of the chest arising from lateral curvature of the spine by weight pressure exercised upon the individual in a stooping posture was highly commended. The president closed his remarks by referring regretfully to the death of two of the members, Dr. Lewis Hall Sayre, of New York, and Dr. David Prince, of Illinois.

ANSWERS TO CORRESPONDENTS.

No. 332.—We think not.

No. 333.—The name is French, not German.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE DOCTORATE ADDRESS

DELIVERED BEFORE THE
GRADUATING CLASS OF THE KENTUCKY SCHOOL OF MEDICINE,
June 19, 1890.

By THE HON. J. PROCTOR KNOTT,
GOVERNOR OF KENTUCKY.

[After a humorous exordium which at once put him completely *en rapport* with his audience, Governor Knott said:]

Pardon me, however, if I call your attention at the very threshold to the duties and responsibilities of the profession to which you have consecrated your talents, your energies, and your lives. No other calling known among men demands a more absolute self-abnegation than the one you have chosen. No other vocation—not even the sacred ministration of religion itself—requires a more constant exercise of the higher faculties of the human mind or a more earnest devotion of the purer and nobler attributes of the human soul.

The physician who is thoroughly imbued with the true spirit of the Hippocratic oath not only dedicates his life to the service of his fellow-man, but abjures everything that can impair his usefulness, degrade his profession, or debase the dignity of his manhood. Wherever the plaintive voice of human suffering calls—whether from the palace or the hovel, the sumptuous abode of luxurious ease or the infectious wards of the loathsome lazar-house—regardless of every consideration of his own security or comfort, unmindful of the tempest that may rage around him or of the insidious virus of contagion that may steal into the citadel of his life with the very air he breathes, he must go. While the life or death of his stricken patient may hang upon his tenderness and skill he is the anxious sufferer's loadstar of hope, the repository of his confidence, the custodian of his honor, his friend and adviser in his last dark hour, and the comforter of the loved ones who may gather in impotent anguish about his dying couch.

If there is one of your number who has failed to realize in all their awful solemnity the tremendous obligations inseparable from such duties and responsibilities, or who has not resolved that, so far as God hath given him the capacity, he will emulate the virtues and rival the skill of the most accomplished of his compeers or the proudest of his predecessors, I would tell him now, in all sincerity and candor, that he has made a grave mistake in his calling—the noble profession of medicine is not for him.

I congratulate myself in the belief, however, that none of you are so ignoble in your aspirations as to be content with the mean promise of the old Spanish proverb "that in a village where every one else is blind the one-eyed man is king." On the contrary, I feel confident that I voice the unanimous sentiment of your class when I say that one who could be degraded enough to take advantage of the unsuspecting credulity of his fellow-man and ignorantly tamper with his life or his health, with no higher motive than the gratification of a sordid, unholy lust for gain, trusting to the kind offices of the undertaker to hide the evidences of his murderous charlatanry out of sight, it would be the basest flattery to call a scoundrel. I am satisfied that there is not one of you who is not inspired by the noble ambition to become, not only the peer of the proudest of your chosen profession, but *princeps inter pares.*

You should remember, however, that such a position among the truly great does not "come by nature," as honest Dogberry supposed to be the case with reading and writing. If you would occupy it, you must win it for yourselves. If you would wear the laurel, you must bear the heat and dust of the arena. You can never scale the perilous pinnacle of professional distinction by standing idly at its base and gazing listlessly at the coveted diadem that glitters upon its summit. You must climb the dizzy height with slow and painful toil, and you had better realize that fact at once.

Let me conjure you, therefore, to set about it now. Eschew, this hour and for life, whatever may tend to impair your faculties or impede your progress. Concentrate all the energies of your nature upon the achievement of that one grand object and enter upon it with an invincible confidence in yourselves. Do not mistake me, I pray you. I do not mean the ridiculous self-conceit of the contemptible coxcomb of the profession, who imagines, because he has his diploma, that his number six hat covers all the medical science that has been developed since the birth of Chiron the Centaur. When I counsel confidence in yourselves, I mean courage—a brave, manly, unconquerable reliance upon your own exertions; an abiding consciousness that whatever man *has* done man may do again; the cheerful conviction that Hercules helps those who help themselves. You may do this and still incur no risk of being dazzled by your admiration of your own intellectual endowments. Extraordinary as the natural abilities of some of the more brilliant of your profession may appear to you, the mental disparity between them and yourselves is by no means so great as you may possibly suppose. Axtell or Sunol may be able to go a mile or ten miles, perhaps, much quicker than a common plug, but the plug will make it in his own time if he keeps on plugging.

Remember that he who is capable of thoroughly mastering the five fundamental rules of arithmetic may in time, by patient and persistent effort, solve with facility and pleasure the most abstruse proposition in the highest range of mathematics and make himself as familiar with the sublime machinery of the sidereal universe as with the simplest piece of mechanism fabricated by human hands. What he may lack in natural aptitude he may supply by well-directed energy and patient perseverance. Fix your eye steadily upon the bright goal of your ambition and constantly press toward it

> "Like the Pontic Sea,
> Whose icy current and compulsive course
> Ne'er feels *retiring* ebb, but keeps due on
> To the Propontic and the Hellespont."

I am aware that when you look over the long catalogue of illustrious names that adorn the annals of your profession and consider the wonderful contributions they have made to the sciences of medicine and surgery, you are apt to think that your predecessors have left you nothing to do but to practice what they have taught, or, at best, to glean a well-reaped field where there is no glory to be won and no garlands to be woven. Yet there was never a graver mistake. Your profession, with all its marvelous development in learning and all its astonishing exhibitions of skill, has but barely approached the domain of scientific truth and anchored in some of its smaller inlets. The occasional adventurer who has gone ashore has only picked up a few trifling pebbles that lay scattered along the beach. The territory remaining to be explored is as illimitable as the universe itself.

The saying is trite indeed that, of all the great departments of human knowledge, medicine is that in which the accomplished results are most obviously tentative and imperfect—the one in which the range of unrealized possibilities is most varied and extensive, and the one from which the most astonishing and beneficent returns might be expected if the same patient and intelligent investigation were directed to it that has been employed during the current century in mechanical invention and material development. Let me exhort you, then, to learn, above all things, "to labor and to wait." The world was not finished in a day; the mountain-range, whose snow-clad summit is kissed by the earliest gleam of the morning sun, was not the growth of an hour, but the slow product of myriads of ages. The history of human progress is crowded with illustrations of the fact that we are constantly in contact with principles and conditions which have remained unobserved since creation's dawn, waiting for some patient, inquisitive thinker to recognize and develop them—great germinal truths which may become the prolific sources of incalculable benefits to our race; and, for aught we know, the one who will be crowned by the common acclaim of coming ages as the greatest of all the discoverers in medical science the world has ever known, from the age of the Asclepiadæ to the present hour, may be sitting at this moment in your midst.

Have you ever traced the tremendous consequences which have frequently resulted from an accidental thought or the most trivial and aimless experiment? Over twenty-five hundred years ago Thales, of Miletus, observed that by rubbing a bit of amber it was made to attract light objects with which it was brought in contact. Thousands gazed in stupid wonder upon the mysterious phenomenon. It was noticed three hundred years afterward by Theophrastus, and four hundred years later by Pliny; yet none of them ever dreamed that, in the subtle agency which they supposed barely capable of lifting a feather, there lurked the strength of a sleeping giant, more marvelous in the magnitude and versatility of its powers than all the fabled genii of the East. But a little less than a century ago, by the most trifling of all possible accidents, the attention of one of your own profession was directed to the same occult force under different and totally unsuspected conditions. His observations upon the accidental discovery he had made inaugurated a series of intelligent experiments, and to-day electricity is the ready servant of man in all his manifold necessities. Tractable as the homing dove, it carries his messages around the world with the speed of thought. It is the unerring instrument of the enlightened scientist in his most subtle investigations, the indispensable implement of the ingenious artisan in his most delicate handicraft, and one of the most effective agencies of the skillful physician in relieving the sufferings of his fellow-beings. It propels our machinery with the power of a thousand horses, and mocks the effulgence of the noonday sun with the dazzling splendor of its light. And yet how little we know of the real nature or the ultimate possibilities of that wonderful agency which would, perhaps, have remained dormant for ages yet to come but for the initial observations of Galvani!

If I have dwelt at undue length upon this familiar illustration, selected at random from a multitude that might be adduced, I have done so to impress upon your minds, not only the pregnant truth that the wide field of useful labor you have selected teems with rich rewards for your intelligent toil, but the paramount importance of constantly cultivating correct habits of observation and thought. Aristotle was right when he said that "incredulity is the source of all wisdom." You should think for yourselves—closely, carefully, patiently, and independently upon everything that may come under your notice, that may be at all cognate to your profession, and never be satisfied that you know enough about anything as long as anything about it remains unknown. Take nothing for granted that may seem inconsistent with correct reason or established facts, simply because some one of acknowledged authority may have said it; and reject nothing as unworthy of your investigation on account of its apparent insignificance, or because it does not seem to square precisely with the preconceived theories of the faculty.

Had Jenner been less observant, or less inquisitive, or too bigoted, or too indolent for investigation, he would probably have been content to prescribe some simple salve for the pustule on the milkmaid's hand, and thousands would be dying to-day of small-pox who enjoy an absolute immunity from that dangerous and disgusting disease. Whether the old Jesuit fathers taught the doctrine that "the proof of the pudding is in chewing the bag" I do not know; but if the doctor who accompanied one of their early missions to Peru had not adopted the custom prevalent among the aborigines of chewing the bark in order to ascertain the nature of the tree, it is probable that quinine, the *sine qua non* of his more modern professional brethren, would have been postponed for centuries.

In the first year of the present century Sir Humphry Davy suggested the employment of nitrous oxide as an anæsthetic in surgery; but, as the suggestion came from a layman, it was passed unheeded, if not with silent disdain, by the great lights of your profession. Eighteen years later Michael Faraday called attention to the anæsthetic effects of sulphuric ether, but it was regarded merely as a matter for curious experiment in the lecture-room, but of no practical consequence. Nearly forty years ago an obscure but inquisitive countryman happened to be present when one of his neighbors was bitten by a rattlesnake. He not only observed the almost instantaneous effect of the poison, but examined the fang, and finding it to be a finely-pointed tube through which the virus had been injected into the circulation of the victim, it occurred to him at once that the effects of an anodyne administered in a similar manner would be equally prompt. He carried the murderous tooth to an intelligent physician, explained its operation, and begged him to have an instrument made by which morphine and other medicines might be similarly applied for the relief of human suffering. The doctor smiled at his rustic simplicity, but now he would consider himself everlastingly disgraced if he should be caught without a hypodermic syringe and a little phial of morphine and atropine in his vest pocket.

I mention these facts not only to illustrate the importance of your paying attention to little things, but to warn you not to reject an apparently reasonable suggestion without proper investigation, no matter from what source it may come. The leading principles taught by "the great father of medicine" himself were those of rational empiricism. He neither attempted nor pretended to form his theories from *a priori* reasoning, but made a careful study of the phenomena of nature, and from them deduced such conclusions as those phenomena seemed to justify.

The celebrated Cornelius Celsus, the contemporary, if not an associate, of Horace and Ovid, although a follower of Hippocrates and Asclepiades, was not a blind adherent of any sect. He did not hesitate to dissent from the views of his illustrious prototypes where he thought they were in error, and accepted with equal impartiality whatever he found to commend, whether in the teachings of the Empirics, the Dogmatics, the Methodics, or the Eclectics; and the immortal Claudius Galenus himself, the most distinguished and the most esteemed of all the ancient apostles of medical science, while strenuously maintaining the superiority of theory over mere empiricism, blended in his own school the empirical knowledge he had derived from the teachings of Satyrus, Stratonicus, and Eschrion. In short, the man who makes himself truly great in any calling is the one who has sense enough to know a good thing when he sees it, and decision of character enough to make it useful whenever he may find it.

Whatever you may accomplish, however, in your professional career, you should make up your minds not to be surprised to find yourselves deprived of much of the credit that may be justly due you. In your profession, as in all others—

"Full many a flower is born to blush unseen,
And waste its sweetness on the desert air,"

while, on the other hand, full many a name shines upon the envied page of history with a borrowed light to which it is not entitled, and which its owner himself would not pretend to claim.

Both of these ideas are illustrated, to some extent, in the present fame of the celebrated William Harvey. If that illustrious man could return to the earth to-night he would probably be astounded to find himself regarded by millions of people, including a large majority of even the more intelligent classes, as the first discoverer of the mere movement of the blood in the human body, a fact familiar to thousands from the earliest antiquity. He was not even the first to suggest the idea of its circulation, which, it is said, was, at least remotely, conjectured by the immortal Stagirite himself, and still more distinctly by Mondino, Berenger, and others of more modern times. Whether it was observed by the great Vesalius or not, we have no means of knowing, but it is certain that the leading outlines, not only of the pulmonary but the larger circulation, were taught by his friend and successor, the ill-fated Michael Servetus, more than fifty years before Harvey was born; and still more clearly by others, especially by Harvey's preceptor in anatomy—Fabricius—who pointed out to his pupil the valves in the veins of the extremities, and set his inquisitive mind to investigating their office. If he could stand where I stand and speak to you as I do to-night, he would tell you that he only did what some of you may yet do with respect to some other important but unsettled question in your profession—that he was not willing to sit down, content with what others had ascertained, but that he gathered up all the facts already known, improved upon the knowledge of his predecessors, and, by a series of patient, intelligent, and carefully-conducted experiments, elaborated an already existing theory, and demonstrated its truth to the exclusion of a doubt.

I have alluded to the example of this famous physician, however, more especially to emphasize the important truth that, without a certain degree of dissatisfaction with the existing condition of professional learning, coupled with a passionate disposition for honest, earnest, independent, and intelligent inquiry, anything like progress in medical science is an impossibility. It is universally admitted that among all the brilliant names that illustrate the earlier annals, if not the entire history of your profession, that of Galen stands pre-eminent. Yet it would have been far better for the human family, perhaps, if Galen had never been born.

The blind, abject, almost idolatrous deference of his successors to his teachings, with all their crudities and absurdities, postponed everything like genuine progress in scientific medicine for centuries. They regarded his writings as the ultimate authority from which there could be no appeal, and rejected with disdainful scorn whatever appeared to be inconsistent with his *dicta*. In their vain attempts to reconcile the theories of their master with the phenomena of Nature, they had but little time to interrogate Nature herself, and still less inclination to pursue the study of medical science in those fields in which it can be followed with any assurance of success. Eschewing everything like originality of thought or independence of inquiry, they went on for more than five hundred years, stifling intelligent investigation and killing their patients according to the most approved methods of Galenian science.

I would warn you, however, that if it should be your fortunate lot to make any great discovery or improvement in the practice of your chosen art, or any very remarkable contribution to medical science, you should be prepared for a general howl of dissent from the less profound and more pretentious of your professional brethren until it shall have received the approbation of their acknowledged leaders. I am not fully prepared to believe that the man who first suggested the practicability of carrying corn in both ends of the bag when going to the mill, instead of the old practice of putting a rock in one end to balance the corn in the other, was actually mobbed by his indignant neighbors as a dangerous revolutionist; but I suppose it is really true that Galileo barely escaped a sound roasting for expressing the opinion that the earth moved around the sun, and not the sun around the earth. It is a fact, at any rate, that the disturber of ancient prejudices or long-accepted opinions generally raises a storm about his head, and nowhere has that truth been more frequently or more strikingly illustrated than in the history of the medical profession.

When Galen, at the solicitation of many of the most distinguished philosophers and men of rank, commenced a course of lectures in the Imperial City upon the anatomy of the human system, the novelty of his teachings and the bold contempt with which he assailed the long-accepted fallacies of his predecessors raised such a tempest of indignant criticism among his professional rivals that he was not only compelled to abandon the rostrum, but to get out of Rome. And when Vesalius, in the sixteenth century, defied the authority of Galen, which was still considered supreme, and destroyed by actual demonstration the credit of nearly all the learning to which the earlier masters had pretended; when he swept away the long-venerated rubbish of ancient error and laid the immutable foundation upon which the splendid fabric of modern medical science has been reared, he brought upon himself a perfect deluge of virulent reproach from even the most distinguished of his professional contemporaries. And you will perhaps be surprised to learn that among the foremost of his detractors was the celebrated Falloppius, concerning whom, I have no doubt, you have heard a good deal from your diffident but distinguished dean, unless his lectures have been too much abridged by his characteristic taciturnity.

When Harvey first published to the world his beautiful demonstration of the true theory of the circulation of the blood, it is said that there was not a single physician over forty years of age, either in Great Britain or on the Continent, who coincided with his views. On the contrary, his practice fell away from him, and he was for years the object of the extremest obloquy and abuse. Nor was it until after his experiments had been repeated, and his observations indorsed by many of the most eminent anatomists and physiologists of the period, that his theory was accepted by the far more numerous class of his brethren who were profound in nothing but their ignorance of scientific truth, and their conceit of their own professional culture and ability.

And so when Dr. Ephraim McDowell published his modest account of his first ovariotomy, some eight years after it was performed, it was denounced as a falsehood, and its author held up by the leading medical and surgical writers of the day as a liar and an impostor; and it was not until ten years after that the learned editor of the London *Medico-chirurgical Review*, who had been one of his most malignant satirists, had the grace to thank God that he had lived to ask pardon of the great pioneer surgeon of Kentucky for the injustice he had done him.

It is an ill wind, however, that blows nobody any good; and it is probable that the world is indebted to the intolerance of the medical profession during the fifteenth and sixteenth centuries toward any improvement or innovation in their own peculiar department of learning for the initial step in the wonderful development of astronomical science which has taken place since that period. About the year 1500 a German physician, becoming disgusted with the bigoted deference to the doctrines of the earlier masters, which seemed to render any advancement in the philosophy or practice of his profession an impossibility, abandoned it and devoted himself to the study of mathematics. He soon detected the absurdities of the Ptolemaic hypothesis concerning our system of planets, and revived the theory of Pythagoras that the sun was the center of a series of spheres, including our earth, which revolved around it, and also upon their respective axes. For thirty years he labored on the demonstration of that sublime truth, and to-night the name of Nicholas Copernicus, the great prototype of Kepler, Galileo, Newton, Herschel, and Leverrier, remains written upon the star-decked vault of heaven in characters of ineffable glory, to be hymned by the spheres as long as they shall continue in their wondrous pathway through the skies.

I hope I have made myself clearly understood in urging upon you the importance of thinking and investigating for yourselves. Mark me: I would by no means advise you to tamper with the health or trifle with the lives of your patients by reckless or questionable experiments; far from it, indeed. You had infinitely better confine yourselves to catnip, comfrey, and elecampane for the sake of your own consciences as well as for their safety. I simply mean that, while you should act prudently, you should act independently; that you should not regard everything you see in the text-books as absolutely infallible, nor reject anything because it may not be backed by the *ipse dixit* of some recognized authority in the profession.

John of Salisbury, one of the most celebrated scholars and among the wittiest writers of the twelfth century, has left us a sketch, in his *Polycraticon*, of the average medical graduate of his period, which I beg leave to read to you, in order that you may see the immense difference between them and some of the newly-fledged physicians of the present enlightened day. He says:

"They return from college full of flimsy theories to practice what they have learned. Galen and Hippocrates are continually in their mouths. They speak aphorisms on every subject, and make their hearers stare at their long, unknown, and high-sounding words. The good people believe that they can do anything because they pretend to all things. They have but two maxims which they never violate—never mind the poor; never refuse money from the rich."

We find an occasional survivor of this species even in our own age, and if there is one of you who has made up his mind to prostitute his sublime profession solely to the sordid purpose of accumulating lucre he will be certain to take his place among them, and you will soon find him resorting to all the artifices of the knavish quack in order to magnify his own importance and to multiply his chances for "gathering gainful pillage."

On a county court day, when the streets are full of country folk, he will rush out of his office, fling his pill-bags across his saddle, mount his horse, and gallop off on a suppostitious call, as though life or death depended on his speed; and, after an hour or two, he will come galloping back again, run into his office, rush out again and scurry away in the opposite direction. He will be a prompt attendant of the most popular church in town, where he will sit "as demure as a harlot at a christening" until some impecunious emissary, whom he has hired for a trifling consideration to do so, hurries in with a most anxious expression on his countenance and calls him out just as the service has reached its most solemn point.

If he should happen to perform some trifling operation in minor surgery, he will have it paraded in the local newspaper as one of the most astonishing feats of the scalpel since the days of Antyllus or Heliodorus; but if he should venture beyond his depth, and cut off the wrong leg, or have his victim die under the knife, he will contrive to have as little said about it as possible, and satisfy the community that the patient's death was only a question of time anyway.

While constantly parading exaggerated accounts of his own superior learning and skill, he will lose no opportunity to injure his absent rival by insidiously depreciating his merits or openly misrepresenting him behind his back. If he should be called to a patient in the absence of the family physician, he will not fail to pronounce the medicine which the doctor has left a deadly poison, and then prescribe the same thing under another name. If a consulting physician should say, in the presence of the patient, that he might safely rely upon the "*vis medicatrix naturæ*," he will whisper to some officious friend of the sick person standing by: "That will kill him quicker than strychnine." In speaking with one of the unlettered multitude about his practice, he will never use a term his hearer will be likely to understand, if he can think of a technical synonym of "learned length and thundering sound." He will never prescribe such a thing as a common poultice, but will recommend a cataplasm of certain ingredients. He will not even suggest a wash of ordinary salt and water; it must be a saturated solution of sodium chloride. As I have already said, however, I am happy in the conviction that none of the gifted and aspiring young men whom I have the honor to address to-night will ever condescend to the low artifices or be content with the degraded level of the vulgar sham, the mere knavish pretender.

Mr. Sergeant Balentyne, the celebrated English barrister, on being asked what was the highest qualification for a Lord Chief-Justice, replied that "a Lord Chief-Justice should, in the first place, be a gentleman, and then, if he should know a little law, it would be so much the better." And so I would say, while it may be necessary in the practice of your profession that you should know something about medical science, it is absolutely indispensable that you should be gentlemen! By this I do not mean that you should simply cultivate the graces and practice the ordinary amenities of courteous intercourse common to polite society, but that you should at all times, and under all circumstances, illustrate the heaven-inspired virtues of honest, earnest, noble Christian men. That you should spurn with indignant scorn the low, mean vices of envy, malice, and evil speaking, and never suffer yourselves to be betrayed into anything that can degrade your manhood or cast the slightest stain upon the bright escutcheon of your honorable profession. Above all things, let your demeanor toward your professional brethren be candid, manly, and just, and your deportment to your patients kind, considerate, and conscientious.

I feel that I owe you an apology for having detained you so long, but while I bid you the heartiest Godspeed in your chosen career, I trust you will permit me to hope that if you shall at some time in the great unexplored future that lies before you recall a single word I have spoken, by which you have been comforted or encouraged in the attainment of the success to which you aspire, you will not regret the courteous attention you have given me, and for which I tender you my profoundest thanks.

Original Communications.

A REPORT OF
SIXTY-TWO CASES OF HIP DISEASE

Observed in the Practice of Hugh Owen Thomas, of Liverpool.[*]

By JOHN RIDLON, M. D.,
ASSISTANT SURGEON AT THE VANDERBILT CLINIC, NEW YORK.

With a desire to present for your consideration further facts regarding the use of the Thomas hip splint, I spent twelve days during the month of June of this year in Liverpool, and examined all the cases of hip disease coming under the observation of Mr. Thomas during that time.

It had been my desire to make a report upon cured cases, but I found that no records of cases had been kept, and that even the names and addresses of patients were wanting. I therefore contented myself with taking all cases as they came, not with the idea of showing ultimate results, but rather the presenting of a picture of Mr. Thomas's daily work. New cases will be presented; cases where the treatment has just been commenced; cases that have been under treatment one and two years; cases that have been under treatment five and six years; cured cases; cases among the poor and among the well-to-do; and cases that have done badly and cases that have done well. I realize, as must every one else, that a much more brilliant showing would have been made had only cured cases been considered; but it is not to make a brilliant showing that I present this report; my only desire is to present to you the facts as I found them.

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[*] Read before the American Orthopædic Association, September 18, 1890.

Every opportunity was given me by Mr. Thomas to question and examine the patients; and the facts which I shall present to you were obtained from the patients themselves, or their parents, and the measurements were all made by me.

Statements as to the degree of deformity present when treatment was commenced, and as to the length of time spent in bed, I found to be so uncertain that they have been omitted; and I have contented myself with recording only the time from the beginning of the limp or pain, or both, to the commencement of treatment; the time which the long splint was worn; the time which the short splint was worn; the time since treatment was discontinued, in cured cases; the presence or absence of abscesses, and, if present, when they appeared and how many, and the sinuses remaining; and the presence or absence of pain. The examination consisted of inspecting the patient as to his general condition; noting the presence of abscesses, sinuses, and cicatrices of sinuses; flexing the sound leg on the chest while the affected leg was held in full extension; measuring the length of the legs and the degree of flexion and of abduction or adduction; and testing the motion in those cases where the splint was for any cause removed. The standard position taken for measuring flexion was that which is known as "Thomas's flexion-test position"—that is to say, the sound leg is flexed on the chest to such a degree that the elbow can be hooked through the flexure of the knee, the anterior surface of the elbow being in contact with the popliteal space, and the forearm at right angles across the body. This position effectually overcomes all lordosis, and in some cases gives a lumbar kyphosis, so that if the affected leg can be carried down to the table, the patient, of course, being supine, it shows that the joint is free from all flexion, and that extension to a certain degree is possible. With the patient then in the flexion-test position, the angle of flexion was measured after the plan of Dr. Kingsley, of Boston.* In those cases where motion was not tested, because the patient was not removed from the splint, if the sound leg could be flexed on the chest to the flexion-test position while the affected leg was confined in the splint, the popliteal space resting on the table, it was considered as being free from flexion, and so noted. It will be found that in all cases where flexion is present, or where any special joint tenderness remains, it will either be impossible to flex the sound leg to the flexion-test position, or very painful; and that involuntary muscular spasm can be as readily detected as on manipulating the affected leg. I have on that account noted whether there was present or absent tenderness on flexing the sound leg into the flexion-test position. The terms "real" and "apparent" shortening or lengthening are used in the same sense as suggested by Dr. Lovett,† of Boston, and the abduction or adduction is calculated by Dr. Lovett's table.

Sixty-two cases of unilateral hip disease were seen and examined. Four of them (I, II, III, IV) were new cases and are recorded simply to show the condition of cases when they present for treatment. They are omitted from all the calculations excepting that of the average duration of the limp before commencement of treatment.

The three cases, to wit, XXXIII, LX, LXI, were in children in well-to-do families, and had received the care that we are accustomed to expect in private cases. It is not surprising, then, to find that in these cases the results are better than the average in the other cases. All the remaining cases were from among the poorer classes, who, from ignorance and poverty, had received no better care than the dispensary class receive with us. Indeed, many of them were charity cases, and the sum total which these patients pay to Mr. Thomas for splint and treatment is, I have no doubt, no greater than dispensary patients with us are accustomed to pay for the traction hip-splint, and in many cases not as much. It should, therefore, be evident that any assumption that Mr. Thomas ought to get better results than have elsewhere been reported, because his patients are private patients, is unfair.

The average duration of limp before treatment was commenced in these sixty-two cases was a little over ten months.

The average duration of treatment was not computed, as only a few were cured cases, and as many had been under treatment but a short time.

The "long splint" referred to is that which is ordinarily known as the Thomas splint, and extends from the lower angle of the scapula to the lower third of the leg. The "short splint" is the long splint cut off, and not extending below the knee. Contrary to what we have been taught, it was found that the long splint had not always been put on at the beginning of treatment, but that the short splint, which "does not lock the knee," had been put on instead. In some cases the short splint had been replaced later by the long splint, but in other cases its use had been continued throughout the entire course of treatment. Contrary, also, to what we have been taught, nearly all of these children were found walking around without high patten and crutches. In the same way patients were allowed to walk before the deformity had been overcome, and while muscular spasm and deformity, and sometimes pain, still persisted.

Of the 58 patients that had been under treatment for a longer or shorter time, 24 had shortening, 24 had adduction, 5 had abduction, 3 had inward rotation, and 2 had outward rotation. In the cases where abduction coexisted with shortening the abduction was an advantage, as it compensated in a measure for the shortening.

Of the 24 patients who had real shortening, 2 had ¼ inch, 9 had ½ inch, 4 had ¾ inch, 3 had 1 inch, 4 had 1½ inch, 1 had 2 inches, and 1 had 2½ inches. In 2 cases the affected leg was actually longer than the other leg.

One patient had in-knee, apparently resulting from the action of the adductor muscles of the thigh, while the ankle was held by the splint and the knee was not. It should be noted that this patient was walking around without patten and crutches, while there still remained a very tense involuntary spasm of the adductor muscles.

Of the 58 cases, 23 had, at some time during their course, some before, but many after treatment had been commenced, presented one or more abscesses. Of these, one had disappeared without opening and another was fast disappearing.

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* G. L. Kingsley, *Boston Med. and Surg. Jour.*, July 5, 1888.

† R. W. Lovett, *Boston Med. and Surg. Jour.*, March 8, 1888.

In 31 cases the motion was not tested, for the reasons above stated. In 27 it was tested; 12 patients had no motion, 10 had some motion, 2 had motion to ninety degrees, and 3 had normal motion. It should be borne in mind that these 27 cases in which motion was tested were either cured cases, or so well advanced in convalescence that it was not thought in any way a risk to test the motion very thoroughly; while of those not tested it would seem probable that very many would have shown considerable motion, inasmuch as they showed free flexion of the well leg to the flexion-test position; or, in other words, they showed normal extension of the affected limb.

All these patients, unless otherwise so stated, were in good general health.

The record of the cases is as follows:

Case I.—Female, fifteen years old; has limped at times and complained of some pain for three years. There is involuntary muscular spasm and flinching on manipulating the leg, but there is no deformity, and the patient can be put in the "Thomas flexion-test position" without pain or any special effort. Mr. Thomas refused to commence treatment without further observing the case.

Case II.—Female, twelve years old; limped for six months; no complaint of pain; no night cries; no abscess; general condition fairly good; one inch real, but only a quarter of an inch apparent shortening; abduction, six degrees; flexion, twenty degrees; some motion in flexion; well-marked involuntary muscular spasm. Hip splint now applied.

Case III.—Female, eight years old; limped for three months before treatment was commenced; long splint applied at the Liverpool Infirmary two months ago; now seen by Mr. Thomas for the first time; an abscess has been noticed for the past week; no pain; no tenderness on flexing the sound leg to the flexion-test position; no abduction; no adduction; some motion in all directions, limited by muscular spasm.

Case IV.—Female, eleven years old; began to limp nine months ago; a splint was put on six months ago by a Manchester surgeon, but it is too flexible to be of any use; patient now seen by Mr. Thomas for the first time; abscess noticed two weeks ago; has some screaming in sleep, but no pain otherwise; some tenderness on palpation and manipulation; muscular spasm well marked; no real shortening; half an inch apparent shortening; adduction, four degrees; flexion, thirty-nine degrees; very little motion in any direction. A new splint was applied.

Case V.—Female, nine years old; has limped at times for four years; has not complained of pain; no abscess; muscular spasm well marked; very little tenderness on gentle manipulation; leg one quarter of an inch longer than the leg of the opposite side; flexion, thirty degrees; no abduction; no adduction; very little motion in any direction; splint now applied for the first time. I saw the patient again at the end of a week. The flexion had been completely reduced and there had been no pain.

Case VI.—Male, nine years old; limp and some pain for four months before treatment was commenced; has worn long splint one week; has swelling in the groin, but fluctuation is doubtful; has night cries; tenderness on flexing the sound leg to the flexion-test position; marked muscular spasm; has not yet been allowed to walk; no shortening; no flexion; no abduction; no adduction; motion not tested.

Case VII.—Male, six years old; limp and pain for six months before treatment was commenced; has worn long splint for ten weeks; still has some night pain, but is allowed to walk without crutches; no abscess; some tenderness on flexing the sound leg to flexion-test position; no real, but half an inch apparent shortening; adduction, four degrees; no flexion; motion not tested.

Case VIII.—Male, three years and a quarter old; has never walked; when three months old had a fall, and splint was put on at once at the Liverpool Infirmary and was worn for a year; then came under care of Mr. Thomas, and has continued to wear the splint for two years more; no abscess; no pain for a long time past; no tenderness on flexing the sound leg to the flexion-test position; no real shortening; two inches apparent shortening; adduction, twenty-one degrees; no flexion; motion not tested.

Case IX.—Female, twelve years old; limped for six months before treatment was commenced; has worn long splint for nine months; no abscess; no tenderness on flexing the sound leg to flexion-test position; no real shortening; an inch and three quarters apparent shortening; adduction, fourteen degrees; no flexion; considerable inward rotation; motion not tested.

Case X.—Male, four years old; limp and pain for nine months before treatment was commenced; has worn long splint twelve months; an abscess appeared soon after splint was applied, and is now near breaking; no pain now; no tenderness on flexing the sound leg to flexion-test position; no real shortening; an inch apparent shortening; adduction, nine degrees; no flexion; motion not tested.

Case XI.—Male, four years old; limped for three weeks before treatment was commenced; has worn the long splint for sixteen months; some thickening in the groin, but no fluctuation can be made out; no pain; no tenderness on flexing the sound leg to flexion-test position; a quarter of an inch real and an inch and a quarter apparent shortening; adduction, nine degrees; no flexion; motion not tested.

Case XII.—Female, fourteen years old; limped for nine months before treatment was commenced; wore splint for six months before coming to Mr. Thomas, and has continued to wear the long splint for eight months since; abscess was present when she first came under the care of Mr. Thomas; it has never opened, and has now for some time been growing smaller; suffered great pain and could not walk for a long time; no pain now; no tenderness on flexing the sound leg to flexion-test position; half an inch real and an inch and a half apparent shortening; adduction, seven degrees; no flexion; motion not tested.

Case XIII.—Male, six years old; limped for two weeks before treatment was commenced; has worn long splint eight months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no real shortening; three quarters of an inch apparent shortening; adduction, seven degrees; no flexion; motion not tested.

Case XIV.—Female, six years old; limp and pain for six months before treatment was commenced; has worn long splint two weeks; was unable to walk for the last week before the splint was applied; no abscess; no pain now; some tenderness on flexing the sound leg to flexion-test position; half an inch real and an inch apparent shortening; adduction, four degrees; no flexion; motion not tested.

Case XV.—Male, thirty years old; limped for five years before treatment was commenced; has worn short splint three years; has had eight abscesses; one sinus remains; no pain now; no tenderness on flexing the sound leg to flexion-test position; two inches real but only an inch apparent shortening; abduction, six degrees; no flexion; no motion.

Case XVI.—Female, four years old; limped for three months before treatment was commenced; has worn long splint for six months; abscess, noticed four months ago, broke two days ago; has no pain; no tenderness on flexing the sound leg to flexion-test position; no real shortening; half an inch apparent shortening; adduction, four degrees; no flexion; some motion.

Case XVII.—Male, eleven years old; limp and pain for six months before treatment was commenced; wore short splint for two months; since then has worn long splint for twenty months; abscess appeared four months after treatment was commenced, but disappeared without aspiration or opening; no pain; no tenderness on flexing the sound leg to flexion-test position; an inch and a half real shortening, but only three quarters of an inch apparent shortening; abduction, five degrees; no flexion; motion not tested.

Case XVIII.—Female, fifteen years old; limped for five months before treatment was commenced; has worn the long splint fifteen months; no abscess; no pain on flexing the sound leg to flexion-test position; half an inch real shortening; half an inch apparent lengthening; abduction, seven degrees; no flexion; motion not tested.

Case XIX.—Male, twenty-one years old; limped for two years before treatment was commenced; wore long splint three years; after going without splint for twelve months an abscess formed, opened spontaneously, and discharged for six months; during this time a short splint was applied, and has now been worn eighteen months; no pain; no tenderness on flexing the sound leg to flexion-test position; an inch and a half real, but only half an inch apparent shortening; abduction, six degrees; no flexion; some motion.

Case XX.—Male, four years and a half old; is a remarkably large child for his age; limped for twelve hours before treatment was commenced; has worn long splint for two months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no real shortening or lengthening; half an inch apparent lengthening; abduction, four degrees; no flexion; motion not tested.

Case XXI.—Male, seven years old; was hurt by a cricket-ball five weeks before treatment was commenced; has worn long splint fourteen months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no real shortening or lengthening; half an inch apparent lengthening; abduction four degrees; no flexion; motion not tested.

Case XXII.—Male, five years old; limp and pain at times for two months and a half before treatment was commenced; has worn long splint for two months; no abscess; no pain; slight tenderness on flexing the sound leg to flexion-test position; no real shortening; half an inch apparent shortening; adduction, four degrees; no flexion; some inward rotation; motion not tested.

Case XXIII.—Female, four years old; having been cured without deformity or stiffness, relapsed two years after treatment had been discontinued, and has now been wearing short splint two months; one cicatrix; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; adduction, four degrees; no flexion; no rotation; slight motion.

Case XXIV.—Male, ten years old; limp and pain for six weeks before treatment was commenced; has worn long splint for six years; has had three abscesses, from which two sinuses remain, and another abscess broke into the intestine; had albuminuria for many months, and was in a very precarious condition; no albuminuria now; is fat and in good color; no pain for a very long time; half an inch real and two inches apparent shortening; adduction, sixteen degrees; no flexion; no motion. Has walked about for a long time without patten and crutches.

Case XXV.—Male, six years old; limped for three months before treatment was commenced; has worn long splint eighteen months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; slight motion in all directions.

Case XXVI.—Female, eleven years old; limp and pain for two years before treatment was commenced; wore long splint for two years; has worn short splint for one year; no abscess; no pain for a long time; no real shortening; one inch apparent shortening; adduction, eight degrees; flexion, twenty-five degrees; no motion.

Case XXVII.—Male, two years old; has had trouble since birth; long splint was put on when four months old; it has been very difficult to keep patient properly in the splint, and he runs about constantly; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; half an inch shortening; no abduction; no adduction; no flexion; some motion in all directions.

Case XXVIII.—Male, nine years old; limp and pain for seven months before treatment was commenced; wore long splint for three years; has worn short splint two years; abscess four years ago, and another three years ago; no sinuses; no pain; no tenderness on flexing the sound leg to flexion-test position; three quarters of an inch real and two inches apparent shortening; adduction, ten degrees; flexion, twenty-two degrees; no motion. Lives far away and has been seen but once in three months. He has walked about without patten and crutches.

Case XXIX.—Male, fifteen years old; limp and pain for seven years before treatment was commenced; father is consumptive; wore long splint two years; has worn short splint one year; had one abscess before treatment was commenced; no pain; no tenderness on flexing the sound leg to flexion-test position; patient has grown very rapidly and is a very tall boy for his age; an inch and a half real shortening, two inches apparent shortening; adduction, four degrees; no flexion; some motion in all directions.

Case XXX.—Male, seven years old; limped for four months before treatment was commenced; wore long splint fifteen months; has worn short splint twelve months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; half an inch real and an inch and a half apparent shortening; adduction, four degrees; flexion, twenty degrees; no motion.

Case XXXI.—Female, nine years old; strained joint skipping rope; limped and had pain at times for three years and a quarter before treatment was commenced; was kept in bed one month before the splint was applied; wore long splint eighteen months; has worn short splint for eighteen months; no abscess; no pain for a long time; no tenderness on flexing the sound leg to flexion-test position; quarter of an inch real and three quarters of an inch apparent shortening; adduction, four degrees; no flexion; some motion.

Case XXXII.—Female, ten years old; limped for four months before treatment was commenced; has worn long splint for ten months; has in-knee of eight weeks' duration, resulting from the use of the splint; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; shortening and the consequent adduction not measured because of the in-knee; no flexion; motion not tested.

Case XXXIII.—Female, eight years old; limp and some pain for three weeks before treatment was commenced; has worn short splint for three months; never has worn long splint, but has not been allowed to walk; no abscess; no pain since treatment was commenced; no shortening; no flexion; no adduction; no abduction; normal motion in all directions; now to be allowed to walk with crutches.

Case XXXIV.—Male, forty-two years old; limp and pain for twelve months before treatment was commenced; no traumatic cause; has never worn the long splint; has worn short splint for three months; no abscess; no tenderness on flexing the sound leg to flexion-test position; no pain; no shortening; no flexion; no adduction; no abduction; no rotation; motion not tested.

Case XXXV.—Male, sixteen years old; limped for five weeks before treatment was commenced; has worn long splint for nine months; deep fluctuation in groin; still has some pain; some tenderness on flexing the sound leg to flexion-test position; three quarters of an inch real shortening; no abduction; no adduction; no flexion; motion not tested.

Case XXXVI.—Female, nine years old; limped for twelve months before treatment was commenced; has worn long splint twelve months; small area of deep fluctuation in front of the joint; no pain; no tenderness on flexing the sound leg to flexion-test position; no real shortening; half an inch apparent shortening; adduction, four degrees; no flexion; motion not tested.

Case XXXVII.—Male, fourteen years old; limp and pain for three months before treatment was commenced; has worn long splint for two years; two sinuses in the groin for the past eighteen months; no pain now; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; no motion.

Case XXXVIII.—Male, eight years old; limped for fourteen months before treatment was commenced; has worn long splint for ten months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; some motion.

Case XXXIX.—Female, eight years old; limp and pain for twelve months before treatment was commenced; has worn long splint three years; first abscess ten months after treatment was commenced, and second soon after first; two sinuses remain; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case XL.—Male, twenty months old; pain and stiffness for six weeks before treatment was commenced; has worn long splint ten months; one abscess opened spontaneously three months ago; sinus remains; another abscess now present pointing in two places; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case XLI.—Male, thirteen years old; limp and pain for one year before treatment was commenced; has worn long splint a year and a half; first abscess opened twenty months ago, and a second three months ago; one sinus remains; no pain now; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case XLII.—Female, fourteen years old; limped for three months before treatment was commenced; never wore long splint; has worn short splint four months; had one abscess; no sinus; has had disease, with abscess at right elbow, for eight months; no pain now; some tenderness on flexing the sound leg to flexion-test position; general condition fairly good; no real shortening; three quarters of an inch apparent shortening; adduction, three degrees; no flexion; motion not tested.

Case XLIII.—Male, thirteen years old; limped for three weeks before treatment was commenced; wore long splint for six years; has worn short splint for two years and a half; was in Liverpool Infirmary nine months at commencement of treatment, not under Mr. Thomas; has had three abscesses; the last closed three years ago; all appeared while under the care of Mr. Thomas; an inch and a half real shortening; no abduction; no adduction; no flexion; some outward rotation; motion not tested.

Case XLIV.—Female, eleven years old; limp and pain for two years before treatment was commenced; wore long splint for two years; has worn short splint for one year; an abscess opened spontaneously at about the time treatment was commenced; it closed after discharging for about a year; no pain since that time; no tenderness on manipulation; one inch real shortening; no abduction; no adduction; no flexion; no motion.

Case XLV.—Female, nine years old; limped for four months before treatment was commenced; wore long splint for ten months; has worn short splint two months; when three years old wore a Thomas splint, but not under Thomas's care, for ten months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; some motion in all directions.

Case XLVI.—Male, twenty years old; suddenly attacked with pain and limping one month before treatment was commenced; no traumatism; has worn long splint ten months; no abscess; no pain now; no tenderness on flexing the sound leg to flexion-test position; one inch shortening; no abduction; no adduction; no flexion; no motion.

Case XLVII.—Male, twenty-one years old; limped for twelve months before treatment was commenced; wore long splint for eighteen months; has worn short splint for four years; abscess opened spontaneously before treatment was commenced and still discharges; no pain; no tenderness on flexing the sound leg to flexion-test position; one inch shortening; no abduction; no adduction; no flexion; motion not tested.

Case XLVIII.—Male, six years old; limped for two days before treatment was commenced; wore long splint for two years; has worn short splint three months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; three quarters of an inch real and one inch and three quarters apparent shortening; adduction, nine degrees; no flexion; motion not tested.

Case XLIX.—Male, six years old; limped for three months before treatment was commenced; has worn long splint for two years; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; leg one quarter of an inch longer than well leg; no abduction; no adduction; no flexion; motion not tested.

Case L.—Female, eight years old; limped for four months before treatment was commenced; has worn long splint twelve months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; no motion.

Case LI.—Male, three years old; limped for five weeks before treatment was commenced; has worn long splint fourteen months; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case LII.—Female, five years old; limp and crying in sleep for two weeks before treatment was commenced; has worn long splint two months; no abscess; still has crying in sleep, but does not complain of other pain; some tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case LIII.—Male, six years old; limped for six weeks before treatment was commenced; has worn long splint for one week; no abscess; no pain; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case LIV.—Male, four years old; limp and some pain for three years before treatment was commenced; has worn long splint for three months; no abscess; no pain of late; no tenderness on flexing the sound leg to flexion-test position; no shortening; no abduction; no adduction; no flexion; motion not tested.

Case LV.—Female, eleven years old; limp and pain for six months before treatment was commenced; wore long splint four years; has now been without treatment for two weeks; no abscess; no pain; no tenderness on manipulating leg; no shortening; adduction, two degrees; no flexion; slight inward rotation; no motion.

Case LVI.—Male, seventeen years old; twisted hip in kicking a foot-ball, and was seen next day; was kept in bed three months without any mechanical treatment; then had the long splint for one year, and the short splint for two years; has had no treatment for the past six months; no abscess; no pain for a long time; pain was very great for a long time at the commencement of the trouble; no tenderness on manipulating the leg; no shortening; no abduction; no adduction; no flexion; normal motion in all directions.

Case LVII.—Male, twenty-two years old; limp and pain for six months before treatment was commenced; wore long splint for three years and a half; no pain for a long time; cicatrices of six sinuses present; has been without treatment for four months; no tenderness on manipulating leg; three fourths of an inch real shortening; one inch and a quarter apparent shortening; adduction, eight degrees; flexion, thirty-one degrees; no motion.

Case LVIII.—Male, three years old; limped for two weeks before treatment was commenced; wore long splint thirteen months; no treatment for past three months; no abscess; no pain; no tenderness on manipulation; no shortening; no abduction; no adduction; no flexion; considerable outward rotation; all motions, except inward rotation, smooth and free to ninety degrees.

Case LIX.—Male, twenty-two years old; limped for five years before treatment was commenced; wore long splint two weeks; wore short splint four years and four months; no treatment for past four months; no abscess; no pain now; no tenderness on flexing the sound leg to flexion-test position; two inches and a half shortening; great trochanter two inches and a half above Nélaton's line; no abduction; no adduction; no flexion; no motion.

Case LX.—Female, twelve years old; limped for three months before treatment was commenced; wore long splint two years; had five abscesses; no treatment for past three years; half an inch shortening; no abduction; no adduction; no flexion; some motion in all directions; walks with scarcely any limp, and can go up and down stairs without difficulty.

Case LXI.—Male, eight years old; limped for four months before treatment was commenced; wore long splint two years and a half; has had no treatment for past year; no abscess; no muscular spasm; no shortening; no abduction; no adduction; no flexion; free motion in all directions to ninety degrees; runs and walks without limp or inconvenience.

Case LXII.—Female, twenty years old; limp commenced one year before treatment; became unable to walk and suffered great pain; had hæmorrhages from the lungs; wore long splint three years; no treatment for past twelve months; general condition excellent; no pain now; no tenderness on manipulation; half an inch shortening; no abduction; no adduction; no flexion; normal motion in all directions.

From a study of these cases conclusions can not properly be drawn; but, as I have probably given them a more careful consideration than any one else ever will, I will venture the following suggestions:

Very many of these patients that have had the short splint applied before muscular spasm and pain had subsided and before deformity had been reduced, that have been allowed to walk around without high patten and crutches—that is to say, those whose joints have only been partially immobilized, without being protected from the pressure of superincumbent weight and the concussion of walking—present a moderate degree of adduction, absence of motion, and, in a few cases, slight flexion, and in one instance in-knee.

On the other hand, those patients that have worn the long splint until cured, that have remained in the horizontal position until all pain and muscular spasm had subsided, and had then used the high patten and crutches and had had the benefit of intelligent care and nursing, have been cured without flexion or other deformity than the shortening due to actual bone erosion and arrested growth, and they have shown motion in a very large proportion of cases and in not a few has there been normal motion.

The absence of any traction force, either in the line of the shaft or of the neck of the femur, does not seem to have increased the number of patients having abscesses or the number of abscesses in each case, nor to have increased the frequency of shortening or the amount of shortening in each case. No case has given any signs of perforation of the acetabulum by the head of the femur, and in only one has there been any indication of perforation by suppuration. And involuntary muscular spasm and pain arising therefrom are noticeable for their absence. In a word, those patients who have had no traction are found to be remarkably free from all those conditions which we have been taught can only be relieved by persistent and long-continued traction.

In conclusion, nothing appears to indicate that the principles upon which Mr. Thomas has based his teaching are in any way at fault, though in practice there is still somewhat to be desired.

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THE INFLUENCES OF CLIMATE IN THE UNITED STATES OVER BRIGHT'S DISEASE.

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In attempting a systematic study of the influences exerted by climate over special forms of disease, the value of the results obtained will depend largely upon the geographical extent and variation of the territory considered. It is, furthermore, important that the lives and habits of the people comprising the whole area considered should be as nearly similar as possible, not only socially and domestically, but also as regards their surroundings and influences politically.

In all these respects the United States of America possesses the most eminent advantages. It comprises a territory three thousand miles in length by two thousand miles in width. Its area is over three millions and a half of square miles, which is twenty-nine times larger than Great Britain and Ireland, or nearly equal in extent to the whole continent of Europe. It possesses all ranges of mean temperature for the year, from 35° F. to 75° F.; all altitudes, from the sea-level to fifteen thousand feet; all ranges of rainfall, from ten to sixty inches. The conditions of its atmosphere embrace the features of extreme dryness characteristic of far inland plains, of cool moisture from great inland lakes, and the influences of the sea varied by two oceans and numerous ocean currents. Its northeastern border is covered with snow nearly half of the year, and during the same time its southern coast is covered with vegetation of almost tropical luxuriance. It will therefore be seen that such a wide range of geographical and climatic features enables us to readily determine many questions relating to the influence of climate over disease which are difficult and even impossible to solve in those countries possessing a more limited area and climatic range.

In addition to this, the unrivaled facilities of intercommunication possessed by the United States, including the railway, press, post, and telegraph, bring the population nearer together and make the people more nearly a unit in habits and life than has hitherto been attained in any age or country of equal extent.

Unfortunately, however, with all these unsurpassed natural advantages for scientific investigation, the United States at present is placed at great disadvantage as compared with the older, and in fact with all other civilized nations, in the fact that, unlike them, it has no uniform system of registration of vital statistics. Indeed, were it not for the data afforded by the census, it would be impossible to arrive at any conclusions in the field under consideration which could be looked upon as even approximately correct. Fortunately, in the last census—that of 1880—special efforts were put forth to obtain more complete and accurate returns of deaths than had before been furnished, and likewise to make the returns more accurate as regards the causes of death.

In availing myself of the data afforded by the Tenth Census the same course has been followed, with the view of eliminating errors, which I adopted in the study of climatic influences over other diseases.* Thus all States and Territories furnishing a total mortality of less than five thousand have been excluded from the estimates as too small to give trustworthy data.

The total number of deaths in the United States for the year 1880, as recorded by the census returns, was 756,893, and of these 5,386 were returned under the head of Bright's disease. These returns give us an average ratio of 7·11 deaths from Bright's disease in each 1,000 deaths for the whole country. In order to bring out in strong contrast the relative ratios of mortality from Bright's disease in the different States and Territories, I have constructed Table I, which gives the total mortality, the mortality from Bright's disease, and the ratio of the latter to each 1,000 deaths in each State.

TABLE I.

Deaths from Bright's Disease to each 1,000 Deaths, by States, in the United States for 1880.

STATES.	Total deaths.	Deaths from Bright's disease	Ratio to 1,000.
Alabama	17,929	86	4·79
Arkansas	14,812	29	1·95
California	11,530	81	7·02
Connecticut	9,179	132	14·48
Georgia	21,549	36	1·67
Illinois	45,017	213	4·73
Indiana	31,213	108	3·46
Iowa	19,377	67	3·45
Kansas	15,160	38	2·50
Kentucky	23,718	78	3·28
Louisiana	14,514	105	7·23
Maine	9,523	89	9·34
Maryland	16,919	195	11·52
Massachusetts	33,149	431	13·00
Michigan	19,743	100	5·06
Minnesota	9,037	35	3·86
Mississippi	14,583	38	2·60
Missouri	36,615	106	2·89
Nebraska	5,930	10	1·68
New Hampshire	5,584	71	12·70
New Jersey	8,474	242	28·55
New York	88,332	1,779	20·13
North Carolina	21,547	40	1·85
Ohio	42,610	256	6·00
Pennsylvania	63,881	491	7·68
South Carolina	15,728	39	2·47
Tennessee	25,919	39	1·11
Texas	24,735	53	2·14
Vermont	5,024	52	10·33
Virginia	24,681	73	2·95
West Virginia	7,418	33	4·46
Wisconsin	16,011	80	4·99

A glance at Table I discloses the fact that the mortality from Bright's disease in the State of New Jersey exceeds the average for the whole country by a little over four times. New York State comes next in order, exceeding the average nearly three times. Connecticut follows, with a ratio of over double the average, while Massachusetts and New Hampshire follow, almost doubling the average for the country. Whatever be the causative influences, these five adjoining States form a strip of territory, reaching from the 39th to the 45th parallel, which is especially prolific of Bright's disease.

Before it will be possible to assume with reason that the increased fatality from Bright's disease in this region is due to special features of the climate, it must first be ascertained if the States furnishing lower death-rates from the disease than the average differ essentially in their climatic features from those just named. By again referring to Table I it will be seen that the State of Tennessee furnishes a death-rate from Bright's disease which is less by six times than the average for the whole country—viz., 1·11. Georgia follows in order with a ratio of 1·67—about four times less than the average. Nebraska follows with about the same ratio. North Carolina and Arkansas are next in order, their ratios of mortality from the disease being less than the average by about three times and a half. The States of Tennessee, Georgia, North Carolina, and Arkansas form an adjoining tract of territory, extending from the 31st to the 37th parallel, which lies at directly the opposite point of the compass from the States which furnish the highest death-rate from Bright's disease in the country. Now, in every instance the five States furnishing the lowest ratios of mortality from Bright's disease possess distinct and similar characteristics of climate, the chief features of which are *dryness*, *equability*, and *warmth*. On the other hand, in every instance the five States furnishing the highest death-rate from Bright's disease possess distinct and similar characteristics of climate, the chief features of which are directly the opposite of those of the States furnishing the lowest death-rates from the disease—viz., *moisture*, *coolness*, and *changeability*.

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* *Treatise on Diabetes.*

The variation of the death-rate from Bright's disease in each individual State named is so decided a departure from the average for the whole country—200 to 600 per cent.—that ample room is left for errors through other and minor causes, whose influence is not ignored and will be considered later.

It is well known to climatologists, however, that more accurate and trustworthy results are to be reached in estimating the influences of climate over disease by grouping together large areas of territory, including several States, in part or whole, whose chief climatic features are as near similar as possible. By taking each of these grand groups as the unit of calculations, many errors are eliminated from the estimates that must necessarily creep into the calculations when the State is taken as the unit; and, moreover, by so doing, a more limited and purely political division of territory is substituted by a larger and purely climatic division.

In order to further facilitate the study of the climatic features of Bright's disease in the United States by grand groups,[*] I have constructed Table II, which gives the ratio of deaths from Bright's disease, the mean annual temperature, the annual rainfall, the elevation, and the population of each grand group.

TABLE II.

Deaths from Bright's Disease in each 1,000 Deaths in the United States for 1880, in Grand Groups, showing Climatic Features and Population of each Group.

REGION.	Ratio to 1,000.	Mean temperature F.	Mean rainfall in inches.	Elevation in feet.	Population.
1. North Atlantic coast region......	17·38	40–50°	40–50	100– 500	2,616,870
2. Middle Atlantic coast region.....	19·73	45–60	45–55	Below 100	4,376,135
3. South Atlantic coast region......	2·59	60–65	50–60	" 100	875,086
4. Gulf coast region................	9·41	70–75	55	" 100	1,056,034
5. Northeastern hills and plateaus ..	11·20	35–45	35–45	500– 2,500	1,669,229
6. Central Appalachian region......	8·23	40–45	35–40	Above 500	2,344,089
7. Northern lake region	7·17	45–50	30–40	200– 300	3,049,402
8. The interior plateau region	8·32	45–50	40–45	100– 200	5,714,683
9. The Ohio River belt	5·83	45–55	45–50	300– 1,000	2,440,339
10. Southern Central Appalachian region..........................	2·63	45–55	45–50	1,000– 2,000	2,697,958
11. Southern interior plateau	2·99	65–70	50–60	B'low1,000	3,625,545
12. South Mississippi river belt......	3·14	60–65	50–55	100– 300	710,250
13. North Mississippi river belt......	3·73	40–50	30–50	Above 500	1,990,917
14. Southwest central region.........	1·97	60–70	35–50	100– 500	2,932,676
15. Central region (plains, etc.)	3·70	50–60	40–45	500– 1,500	4,403,662
16. Prairie region..................	3·59	50–55	25–40	Ab've1,000	5,721,836
17. The Missouri river belt	2·80	40–55	20–40	500– 1,000	835,694
18. The Northwestern region	5·21	40–50	30–40	Ab've1,000	1,123,419
19. Pacific coast region	8·72	45–65	20–60	100– 2,000	715,781
20. Region of Western Plains........	3·92	45–65	10–20	1,500– 5,000	324,268
21. The Cordilleran region..........	3·04	50–60	10–20	4,000–10,000	931,910

Upon examination of Table II, it will be seen that Bright's disease attains its highest mortality in the Middle Atlantic coast region — 19·73 in 1,000—or considerably over two and a half times more than the average for the whole country. The North Atlantic coast region comes next in order, the ratio being 17·38 in 1,000. The northeastern hills and plateaus furnish the next highest ratio —11·20 in 1,000 deaths. The average for the three regions just named is 16·15 in 1,000—or nearly two and a half times higher than the average for the whole country. If we examine the climatic features of this tract as a whole, it must be conceded to be the coldest, the most exposed, the most changeable, as well as among the most humid in the United States. The Middle Atlantic coast region, which furnishes the highest ratio of mortality from Bright's disease (19·73) of the grand groups, is by no means the coldest region in the country, although the northern half thereof is very cold, the mean temperature range for the year being only 45° to 50° F. The climate is eminently a moist one, for, in addition to the direct influence of the sea, the surface of the country is low and sandy, and along parts of the coast—notably that of New Jersey—there are sandy reefs, shoreward from which are lagoons succeeded by extensive areas of swamp. Further inland the country is low, nowhere rising to exceed one hundred feet above the sea. In addition to this, the mean annual rainfall is high—forty-five to sixty inches. The changes of temperature are frequent, often sudden, and sometimes extreme. On the whole, however, so far as the temperature is concerned, the mean range is from 10° to 15° F. higher than in the regions of the North Atlantic coast and the northeastern hills and plateaus, where the death-rate from the disease is somewhat lower. It may therefore be properly asked, What determines the greater mortality from Bright's disease in the Middle Atlantic coast region over that in the North Atlantic coast and northeastern hills and plateaus, since the climate in the two latter regions possesses the chief features which we have thus far found prolific of the disease, to a degree at least as marked as in the Middle Atlantic coast region?

In attempting a solution of this question it should first be remembered that the Middle Atlantic coast region contains most of the larger and older cities of the country, and consequently much of the national wealth. Now, it is well known that wealth encourages a course of living that especially predisposes to Bright's disease. Indeed, no fact has become more widely recognized than that chronic Bright's disease (interstitial nephritis) is largely the outgrowth of luxurious living—the over-taxation of the kidneys in eliminating the waste products of highly nitrogenous foods. Moreover, this form of Bright's disease is uncommon before the age of forty years; indeed, it is most frequent after fifty. The Middle Atlantic coast region, containing so large a proportion of the older and wealthier population of the country, must therefore necessarily have a higher ratio of mortality from the interstitial form of Bright's disease. Besides this, nearly one half of the population of the Middle Atlantic coast region is urban, and that form of renal disease known as amyloid degeneration of the kidney (commonly returned under the head of Bright's disease on account of its accompanying dropsy and highly albuminous urine) must be more frequent there since it is so largely the outgrowth of syphilis, a disease always more frequent in large cities. Lastly, old age, scarlatina, and pneumonia are factors which stand in close causative relationship to Bright's disease as a whole, and these factors are possessed by the region in question to a degree perhaps exceeding any region in the United States. If, therefore, we consider the ætiology of Bright's disease apart from climatic influences, we find that the Middle Atlantic coast region possesses the general elements of cause of the disease to a degree exceeding any other region of the country. Add to this the influences of climate whose leading features tend strongly toward high mortality from the disease, and the solution of the question no longer seems a difficult problem.

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[*] The grouping herewith adopted is that proposed by Mr. Gannett, the geographer of the Census.

If now we direct attention to the North Atlantic coast region we find that the death-rate from Bright's disease is very high—17·38 in 1,000. The climate of this region is the most trying in many respects of the whole country. The mean temperature is 45° F., and the mean rainfall is about forty-five inches. This region is exposed to the damp chilling winds from the North Atlantic Ocean. In short, the climate is eminently a cold, moist, and changeable one. The general causes of Bright's disease, apart from climatic influences, are not so marked as in the Middle Atlantic coast region, and therefore the high mortality of the disease in this region is probably more purely due to the special features of climate named.

The next highest death-rate from Bright's disease is reached in the Northeastern hills and plateaus—viz., 11·20 in 1,000. Although possessing the third highest ratio of mortality from the disease of the grand groups, the ratio is considerably lower than in either of the two last grand groups considered. The climate of the Northeastern hills and plateaus is exceedingly cold, the mean range of temperature being but 40° F. This region is also an exposed one owing to its high altitude. It lacks, however, the character of humidity to the degree possessed by the two regions just considered. It is removed from the direct influence of the sea and has a mean rainfall of only about forty inches. There can be little doubt that the lessened mortality in this region from Bright's disease as compared with the two regions last considered is largely due to the comparative dryness of the atmosphere, while a high mortality, as compared with the whole country, is still maintained by the cold and exposed position of this region.

If now we turn to the Southwest central region, we find the rate of death from Bright's disease to be the lowest of all the grand groups in the country—viz., 1·97 in 1,000. The climate in this region is eminently a *dry*, *warm*, and *equable* one. With a mean annual temperature of from 60° to 70° F., and a mean rainfall of thirty-five to forty inches, its chief climatic features are directly opposite to those of the grand groups which furnish the highest death-rates from Bright's disease in the country.

The South Atlantic coast region furnishes the next lowest ratio of mortality from Bright's disease of the grand groups—viz., 2·59 in 1,000. The mean temperature of this region is 60° to 65° F., and the mean rainfall is fifty-five inches. The climate of this region is a warm though rather moist one. It will be remembered that the South Atlantic coast is washed by the Gulf Stream before the latter has had time to mingle to any extent with the cool waters of the Atlantic Ocean, and therefore the east winds are warm and balmy. In addition, this region is sheltered from the north and west winds by the Appalachian range of mountains, and therefore the equability of its temperature is most marked. We learn from these facts that equable warmth tends to induce a low death-rate from Bright's disease, even though the climate is a moist one, and this statement is confirmed by the fact that the Bahama Islands, which are off the South Atlantic coast region, possess a climate that is esteemed for its favorable influence over Bright's disease the world over.

The Southern Central Appalachian region furnishes the next lowest death-rate from Bright's disease of the grand groups—viz., 2·63 per 1,000. This region may be practically considered a continuation of the South Atlantic coast region to the westward. It differs from the latter chiefly in possessing a drier atmosphere at the expense of one slightly cooler, depending upon its higher altitude and greater distance from the sea.

The three grand groups just described, if considered as a whole, form a large tract of practically inland territory of crescent shape, the curve of which corresponds with that of the north line of the Gulf coast. It is removed from the latter sufficiently far to escape the moisture of the sea, and yet it is situated sufficiently near to receive the tempering influences of its warmth and equability. On the north and east it is protected by the base of the great Appalachian range of mountains. The conditions are therefore such, on the whole, as to produce warmth, equability, and dryness of climate to a degree nowhere else attained in any tract of equal extent in the United States. We must therefore conclude that—whether we take the State, the grand group, or a group of grand groups, as the unit of calculations—that which combines the highest range of temperature with the greatest equability and dryness of the atmosphere furnishes the lowest death-rate from Bright's disease, and, *vice versa*, that which combines the lowest temperature range with the greatest degree of atmospheric moisture and changeability furnishes the highest death-rate from the disease. It is true that a few *apparent* contradictions to these rules may be found, but, upon careful consideration, most if not all of these are readily harmonized. Thus it will be observed by glancing at Table II that the Gulf and Pacific coast regions furnish death-rates from Bright's disease considerably above the average for the whole country. At first thought this might perhaps seem surprising, considering the climatic features of these regions and the further fact that it has become the fashion in the United States to send those afflicted with Bright's disease to one or the other of these localities for curative purposes. Upon reflection, however, the fact explains itself, for many of those in practice can attest that numbers of their patients do not return, or, if they do, they leave the records of their deaths to swell the death-rates of the disease in the places under consideration.

With regard to altitude, it may be stated that statistics do not indicate that it very materially influences the death-rate from Bright's disease further than its influence over temperature is concerned. In the northeastern hills and plateaus, where the elevation above the sea averages perhaps 2,000 feet, the mortality from Bright's disease reaches the third highest ratio of the grand groups of the country. On the other hand, in the Southern Central Appalachian region, where the altitude is even higher, the mortality from the disease sinks to the third lowest of the grand groups of the country.

Again, the Middle Atlantic coast region furnishes the highest ratio of mortality from the disease of all the grand groups in the country, and this region possesses a mean altitude of less than 100 feet above the sea; while, on the other hand, in the Cordilleran region the altitude altogether exceeds that of any other grand group in the country, yet we find the death-rate from Bright's disease in this region to be only 3·04 in 1,000—considerably less than half the average for the whole country.

In view of these observations, it must be concluded that the influence of altitude over Bright's disease in general is very slight as compared with those features of climate already considered. In this connection the fact should not be overlooked that in those forms of Bright's disease which are complicated by advanced cardiac disease, notably the late stages of interstitial nephritis, high altitudes are *distinctly dangerous.* In such cases the heart failure is hastened by the high altitude, which in turn is very prone to bring on fatal uræmia.

A review of these investigations substantiates the following conclusions:

1. That the chief features of climate in the United States which most strongly tend to increase the death-rate from Bright's disease are cold, moisture, and changeability of temperature.

2. That the elements of climate which tend in the greatest degree to decrease the death-rate from Bright's disease are warmth, dryness, and equability.

3. That cold most markedly increases the mortality from Bright's disease when associated with moisture, a comparatively low temperature being well borne if the atmosphere is a dry one.

4. That a comparatively high degree of humidity of the atmosphere does not markedly increase the mortality from Bright's disease if accompanied by warmth and equability.

5. That the most unfavorable residence localities for patients afflicted with Bright's disease in the United States are comprised within the Atlantic coast region and Northeastern hills, which include the States of New Jersey, New York, Connecticut, Massachusetts, New Hampshire, and Vermont.

6. That the most favorable residence localities are chiefly comprised within the Southern interior, and especially include the States of Tennessee, Georgia, North Carolina, Arkansas, and Texas.

7. Finally, a practical lesson may be learned from these investigations as follows: That, since climate so decidedly influences the mortality from Bright's disease, those who are afflicted with the disease or possess strong hereditary or other tendencies thereto should wear such garments as most directly tend to neutralize the evil influences of climate over the disease—viz., *those combining the minimum power of radiation of body heat with the highest hygroscopic properties; and since wool possesses these qualities to a degree unapproached by any other textile, all-wool garments should be worn next the skin throughout the year.*

163 STATE STREET.

TOTAL VAGINAL EXTIRPATION OF THE UTERUS

RANDOM NOTES.

By D. TOD GILLIAM, M. D.,
PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY, STARLING MEDICAL COLLEGE, COLUMBUS, OHIO.

As between supravaginal amputation and total extirpation of the cancerous uterus, about which so much is being said and written nowadays, I shall draw no invidious line. Doubtless each has its sphere of utility, and the time will come when the indications for one or the other will be more clearly defined. The relative mortality of the two operations is about two to one in favor of the less radical operation. While under expert hands the death-rate of vaginal hysterectomy has been reduced to five per cent., yet in the aggregate of all operations it is probably not less than fifteen to twenty per cent. Supravaginal amputation in like manner gives a death-rate of about seven per cent., whereas in the hands of a favored few it does not exceed over two to three per cent. Recurrences are a little less frequent and are longer delayed in vaginal hysterectomy, giving an average exemption of about thirty-three per cent. after two years to some German operators. As to the indications for one or the other, the high amputation has a much broader range than total extirpation. The latter is not to be thought of in cases where the mobility of the uterus is much restricted. It is a good rule, and one generally observed, not to attempt total extirpation in any case where the cervix can not be drawn down to the vulva; also in very large uteri, or where there is a complication with fibroid or other massive growth, or where there are strong adhesions, or the vaginal canal is unusually narrow and deep, or when, as occasionally happens, the intestines are adherent to the uterus, or when the broad ligaments are obviously involved in the disease as manifested by thickening, induration, and absence of elasticity. It is safer in every case before operating to not only sound the uterus and test its mobility, but also to anæsthetize the patient, and, drawing the uterus down, make a thorough rectal exploration. In case of intestinal adhesions, if they should prove very firm, the operation should be abandoned, otherwise they may be better dealt with after one of the ligaments is severed and the uterus brought to light, provided always the adhesions are confined to the uterus proper.

In case the cervix is gone and the cavity of the uterus so diseased as to be very friable, traction can be made by a diverging double tenaculum forceps introduced into the cavity and expanded, using very moderate force until the outer surface of the uterus has been cleared sufficiently to admit of a good hold by the volsella.

In a recent case the high operation had been previously performed and a dense, cicatricial tissue formed between the bladder and the uterus; the cavity was cancerous to the fundus. Even the tenaculum forceps plowed through it when much traction was used. I was exceedingly uneasy about this case, fearing that the scar tissue would divert me from my course into the bladder or uterus, but by graduating the traction just so as to steady the uterus, I carefully worked my way for a short distance through the scar tissue, keeping my bearings by means of a sound in the bladder, and soon had the satisfaction of striking the loose cellular tissue, when the volsella was applied, and from then on I had plain sailing.

I prepare my patient for the operation by having the bowels cleared and a vaginal injection of four or five gallons of warm (not hot) water. This not only cleanses the parts thoroughly, but produces a relaxation that facilitates the subsequent steps of the operation. The bladder being emptied, the patient is placed on the table in the lithotomy position. Before the speculum is introduced the vagina is thoroughly mopped out with absorbent cotton saturated with a 1-to-5,000 solution of mercuric chloride. The Sims speculum and two retractors—one on either side—being introduced, the cervix is seized with tenacula or volsellæ or transfixed by strong cords and drawn down. Now with the knife a rather free incision is made at the cervico-vaginal junction into the submucous connective tissue. This cut must completely surround the cervix, but should be extended on either side to afford room for clamping the broad ligaments. Now with the finger, scalpel handle, and scissors separate the bladder from the uterus, keeping close to the latter and doing as little cutting as possible. Having arrived at the peritonæum, which is evidenced by a lack of resistance, Douglas's *cul-de-sac* is exposed in like manner, and opened by a stroke of the knife or snipped by the scissors. Introducing a finger over the broad ligament into the vesico-uterine space, the peritonæum is opened on it.

I have usually disregarded this rule and pushed my finger through from below, as it is rather an advantage than otherwise to have the peritonæum stripped from the anterior surface of the uterus as far as it will go. The openings are now enlarged by pressure with the fingers until the uterus is cleared from side to side and the broad ligaments made freely accessible. One or two sponges properly prepared and with cords attached are now introduced into the peritoneal cavity to absorb the blood and to keep the bowels and other parts out of harm's way. During all this time bleeding points are taken up by pressure forceps as they are exposed, sometimes as many as a dozen or more being needed, at others none.

The finger, or, if tense and unyielding, a steel hook, is now placed over the left broad ligament under guidance of the finger, and the latter drawn down. Following Reamy's suggestion, I habitually use the obstetric crotchet-hook for this purpose, and it answers admirably. The broad-ligament forceps is now passed up alongside and near to the uterus and slid outward on the ligament, bearing in mind the proximity of the ureter and not attempting to take too big a bite, lest this be included. If the uterus is well drawn down, there is much less risk of catching up the ureters than if it be left near its normal situation. With a finger at the distal end of the forceps blade in the peritoneal cavity the forceps is closed so as to take in the entire depth of the ligament and not include anything else. Should the ligament be too much crumpled or rounded by reason of traction on the hook, this must be relaxed while the forceps is being adjusted. I prefer a forceps with a central longitudinal groove, like the Wathens, as the tissues bulging into the groove gives a firmer hold and there is less danger of slipping. It is better also that the blades when closed should not touch their entire length, but that one should be able to see light through that part nearest the handle, as the base of the broad ligament is a little thicker than the upper part, and equalized pressure is better secured thereby. Some time since I got a set of forceps from Tiemann, one of which I considered defective by reason of this non-parallelism of the blades, but in using them I found it the most perfect instrument I had. Having secured the ligament, sever the uterus by scissors, being careful not to cut too close to the forceps. The uterus may now be drawn down and the other forceps adjusted under the eye. The uterus is now cut away, and, after looking carefully for bleeding vessels, the vagina is again mopped out with the bichloride solution, the sponges withdrawn, the vagina packed loosely with iodoform gauze, and the patient put to bed. I do not sew up the peritonæum, for the reason that if no obstacle exists it quickly falls together and heals. On the other hand, should antagonistic conditions prevail, the demands for free drainage will be better subserved by leaving a free opening. The tampon is left in from two to four days, owing to the degree of foulness which develops, or, should the patient's condition suggest infection, it is immediately withdrawn, and, after gentle swabbing with the bichloride, a fresh one introduced. All except the broad-ligament forceps are removed at the expiration of twenty-four hours. The latter are left on forty-eight hours. It is better not to disturb the tampon for twenty-four hours after removal of the forceps, for the reason that, in separating the blades to withdraw them, an opening may be made into the peritoneal cavity through which germs or extraneous matter may gain entrance. I have made it a rule to open the bowels on the second day, whereby intestinal adhesions may be averted. There are no hard rules to follow, however, as this very day I have violated one of the injunctions laid down above. It is now the second day since operating, and consequently time to remove the last forceps. I found her very foul, and consequently swabbed her out and introduced a fresh tampon coincidently with the withdrawal of the forceps. This case taught me another lesson: The first steps of the operation were almost bloodless. Just as I was in the act of severing the last broad ligament the forceps slipped, and the field was deluged in blood. This being secured, a great many vessels from the hidden recesses of the retracted tissues began to spout, and when, after a half hour's hard work, the hæmorrhage was stanched, the vagina was literally packed with pressure forceps.

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THE MEDICAL SERVICE OF THE NATIONAL GUARD OF THE STATE OF NEW YORK.

The *Annual Report of the Adjutant-General* for the year 1889, transmitted to the Legislature on February 20, 1890, furnishes noteworthy evidence of the continued efficiency of the medical corps of the National Guard. At the date of the report the force comprised fourteen regiments, one battalion, and forty-five separate companies of infantry, five batteries of artillery, one troop of cavalry, and two signal corps, amounting on the 30th of September, 1889, to 14,222 officers and men, and being divided into four brigades. The medical corps includes the surgeon-general (Dr. Joseph D. Bryant, of New York), four brigade surgeons (Dr. Robert V. McKim, of New York; Dr. George R. Fowler, of Brooklyn; Dr. Herman Bendell, of Albany; and Dr. Roswell Park, of Buffalo), and a surgeon and assistant surgeon for each regiment. In his own report Surgeon-General Bryant speaks in high praise of the medical officers serving under him and of the sanitary condition of the State Camp, but he deprecates the lack of punctuality and fullness characterizing the reports of some of the regimental medical officers. As an example of what they would do well to emulate, he gives the report made to him by Surgeon E. T. T. Marsh, of the Seventy-first Regiment, within three weeks of the time when that regiment began its week's encampment. Dr. Marsh, who acted as post surgeon during his regiment's encampment, furnished certain recommendations to the commanding officer of his regiment at the outset, and at the same time some bits of advice to the men—all intended to further the preservation of the men's health while in camp. For the most part the advice given by Dr. Marsh was such as every experienced medical officer would undoubtedly urge, and none of it was what such an officer would regret.

In concluding his report, Dr. Marsh makes certain recommendations with regard to the management of the camp—among them, that the number of bath-houses be at least doubled; that the main street be put in a condition, by means of concrete or brick, to enable it to withstand the constant sweeping to which it is necessarily subjected in rainy weather, which now leads to the formation of hollows and consequent puddles; that the high underbrush and lower limbs of the trees on the edge of the bluff and the borders of the camp be cut away so as to allow of a freer circulation of air in and about the camp; and that the members of the ambulance corps be allowed to wear the brassard at all times when they are on duty, inasmuch as some of them were fired on during a sham battle, and one had his face burned with gunpowder. The surgeon-general does not seem to agree with Dr. Marsh as to the utility of cutting away the underbrush and low branches of trees; indeed, he affirms anew that there should be larger and taller trees, and more of them, on the top and the incline of the bluff, not only to afford shade during the heat of the day, but also to aid in warding off any malarial influences that may emanate from the neighboring marshy ground.

During the past few years a point has been made in the National Guard of instructing details of men in the elements of the art of rendering prompt and well-directed aid to the wounded and disabled. This is one of many manifestations of Surgeon-General Bryant's devotion to the good of the service. Of its great value examples have been abundant, but it is none the less gratifying to see that Colonel Loder, of the Fifth United States Artillery, the officer deputed to report upon the New York State Camp of Instruction at Peekskill, makes particular mention of it and gives Dr. Bryant special credit for its introduction. "The idea," says Colonel Loder, "contemplates the extending of aid to the unfortunate citizen who may suffer from the effects of physical violence received in the daily walks of life, as well as to the National Guardsman who may fall while on his special duty. Trained National Guardsmen may thus aid the citizen in other ways than as a 'man under arms.'"

Surgeon-General Bryant properly protests against the practice of issuing disused uniforms to recruits. The use of second-hand uniforms, he remarks, is never ennobling, especially when they are soiled and out of repair—perhaps the cast-off garments of those who have been dropped for dereliction of duty. He calls attention again to the necessity of remedying the prolonged and profound saturation of the soil beneath and around the present kitchen in the camp. Although no case of disease traceable to any such agency occurred during the year, it may well play havoc in the future if it is not dealt with energetically. All his recommendations seem to us such as ought to be carried out.

AN EPIDEMIC OF GHOSTS.

Those who are interested in the manias of the middle ages will be somewhat amazed to hear that in the last decade of the nineteenth century a nervous epidemic of an hallucinatory kind should have made itself prevalent among such very matter-of-fact people as the citizens of Berlin. Our energetic and persevering friends in the bacteriological laboratory have not yet found a microbe to account for the contagion of bodily fear, that uncomfortable sensation about the epigastrium which attacks individuals first and rapidly extends itself to large numbers of people, resembling in its onset the work of the most active microbe. We must, therefore, assume the existence of a mental contagion to explain the occurrence of the extraordinary psychical disturbances of which we read in history and of which to-day we witness an example.

Berlin was a few weeks ago the scene of a most extraordinary demonstration of the contagious effect of fear. In one of the public schools, a silly young girl, frightened by the flapping of a window curtain, imagined that she had seen a ghost, and communicated her dread to the rest of the scholars until something like a panic ensued. Not only did the scholars in this one school begin to see ghosts, but rapidly ghost-seeing became prevalent in other schools, until now the moral contagion has involved many of the schools of the suburbs, as well as those of the capital itself. The force of example, acting upon minds weakened by overwork, operates with a morbid activity, and cases of hysterical outbreaks in factories, convents, and schools have very frequently been reported. The educational forcing system, what Charles Dickens would call the production of mental green peas at Christmas and intellectual asparagus all the year round, of which our German friends are so fond, may play an important rôle, to borrow one of their expressions, in the ætiology of these contagious moral epidemics. There is not much change in the world after all. The intense religious fervor of the middle ages is replaced by the witchcraft craze and the *convulsionnaire* movement of the last century, and now these give place in our time to religious revivals of the wildly emotional type, the howling and writhing of the camp meeting, the strange tongues of Irvingism, and the dancing parade of the salvation soldiers. All such movements have a strong family resemblance the one to the other, and their grotesqueness is proportionate to the degree of education prevalent at the period in which they occur.

With the ghost mania it is reported that the Berlin authorities have adopted vigorous measures, but what form these have taken we have not yet been informed. Perhaps the paternal government of Germany will employ the treatment recommended by Paracelsus for the dancers of his time, namely, total immersion of each patient in cold water. The American spank-cure, as described by a contemporary, might also prove serviceable. The prompt application of the old-fashioned calorifacient slipper to the next child announcing itself as a seer of ghosts might aid in putting an end to what appears to be really a very serious mania.

MINOR PARAGRAPHS.

A TARDY ACKNOWLEDGMENT.

Several years ago Dr. Lewis A. Stimson presented before the New York Surgical Society an account of certain elaborate experiments that he had performed for the purpose of testing the efficiency of germicides in the form of spray as destroyers of atmospheric germs. This was at a time when everybody who believed in antisepsis at all trusted implicitly to the spray. Dr. Stimson's experiments convinced him that the common belief was fallacious, and he stated this conviction without reserve, a procedure that showed his entire confidence in the methods he had employed in the investigation. His paper was published in a Philadelphia journal, and he soon found himself the subject of English criticism of considerable severity, not unmingled with scorn. But in Germany his experiments were repeated and corroborated, and *fort mit dem Spray!* became the cry. The spray fell into general disuse, but we are not aware that its promoter, Sir Joseph Lister, ever formally acknowledged that he had erred in advocating its employment until he did so in his address at the recent Berlin meeting of the International Medical Congress.

MÜLLER'S SYMPTOM IN AORTIC INSUFFICIENCY.

According to the *Gazette hebdomadaire de médecine et de chirurgie*, Dr. Matthieu, in a recent Paris thesis, states his belief that the symptom is occasionally presented under the triad of visible capillary pulse, carotid beating, and pulsation of the uvula and soft palate. The second and third of these peculiarities are most often associated, and constitute the visible pulse of the isthmus of the pharynx. Exceptionally the pharynx is agitated by the pulsations to the exclusion of the tonsils and pillars of the fauces. The appearance of the symptom depends upon: 1. A very energetic cardiac impulse. 2. A considerable volume of the systolic wave. 3. The loss of elasticity of the peripheral arteries, either by spasm or by degeneration. The symptom was only encountered in patients affected with simple or complicated aortic insufficiency, and only in about fifty per cent. of those examined. The symptom may be useful in making a diagnosis when a pulmonary affection renders auscultation of the heart difficult, or when it is impossible to distinguish between the bruit of aortic insufficiency and certain extracardiac murmurs of pulmonary origin or pericardial friction sounds, or when a systolic murmur at the base may be attributed to aortic stenosis or aortitis deformans.

POISONS FOR THE BACILLUS TUBERCULOSIS.

Professor Koch says, according to the *British Medical Journal*, that he has tested a very great number of substances to ascertain the influence that they exerted on the tubercle bacilli in pure cultures. The following substances, even in small quantities, hindered the growth: A number of ethereal oils; of the aromatic compounds, β-naphthylamine, paratoluidine, xylidine; the aniline dyes, fuchsine, gentian violet, methyl blue, quinoline yellow, aniline yellow, auramine; mercury in vapor, and silver and gold compounds. A compound of cyanogen and gold, even in a dilution of one to two millions, checked the growth of the bacillus. These substances had no effect on tuberculous animals. Light was as potent as chemicals, sunlight killing a layer of tubercle bacilli in a few minutes or hours, according to the thickness of the layer. Ordinary daylight will exercise the same effect in from five to seven days.

CAMPHORIC ACID AS AN ANTHIDROTIC.

Lyon médical gives an abstract of an article by M. Leu, published in the *Bulletin médical*, setting forth the results of certain trials of camphoric acid, given internally, to control the profuse sweats of phthisical patients. It was usually given at bedtime, in doses of thirty grains; sometimes that dose was given in the afternoon and a slightly larger one in the evening. It often happened that the anthidrotic effect was not shown until the third day, but generally the effect of a single dose lasted for several days. Out of sixty-five trials on thirteen patients, sixty per cent. were completely successful, and in twenty-two per cent. the sweating was moderated. The drug is soluble with difficulty in water, but dissolves more readily in alcohol. Its taste is said not to be disagreeable. Some trials of an alcoholic solution in the form of a lotion, for localized sweating, proved satisfactory.

MR. HUTCHINSON ON CIRCUMCISION.

In the *Archives of Surgery* Mr. Jonathan Hutchinson sums up his experience in regard to the sanitary advantages of the rite of circumcision. After premising that it is not needful to go on a search for any recondite motive for the origin of the practice, he says: "No one who has seen the superior cleanliness of a Hebrew penis can have avoided a very strong impression in favor of the removal of the foreskin. If not removed it constitutes a harbor for filth, and is, in many persons, a constant source of irritation. It conduces to masturbation and adds to the difficulties of sexual continence. It increases the risk of syphilis in early life and of cancer in the aged. I have never seen cancer of the penis in a Jew, and chancres are rare."

A PROJECT TO INCREASE THE FISH SUPPLY OF NEW YORK STATE.

A number of gentlemen living in Rochester have undertaken to procure funds for restocking Lake Ontario with whitefish, and legislation to prevent the extermination of the new stock. They have the support of the local newspapers and the approval of their member of the State Fish Commission. The undertaking is most commendable, and we have no doubt that the physicians of the State will gladly aid in its accomplishment by whatever influence they may have with legislators and with persons who may be looked to for contributions.

MEDICAL DRAWINGS.

Dr. Henry Macdonald, whose change of address we record elsewhere in this issue, informs us of his willingness to devote a portion of his time to making anatomical and other drawings for members of the profession. We have published many engravings from Dr. Macdonald's drawings, and others have appeared in various medical books. His work is, indeed, so well known as to stand in no need of commendation. We will simply express the hope, therefore, that his otherwise unoccupied time may be sufficient to enable him to do all the drawing that he is called on to do.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 30, 1890:

DISEASES.	Week ending Sept. 23.		Week ending Sept. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	39	13	61	11
Scarlet fever	17	7	27	3
Cerebro-spinal meningitis	1	0	3	3
Measles	45	6	25	2
Diphtheria	42	17	54	14
Small-pox	0	0	1	0
Whooping-cough	0	0	2	0

Mount Sinai Hospital.—There is a vacancy in the eye department of the dispensary. Applicants, who must be proficient in the German language, may address Mr. S. L. Fatman, chairman of the dispensary committee, at the hospital, Lexington Avenue and Sixty-sixth Street.

Reed & Carnrick's Foods.—The recent destruction of one of Messrs. Reed & Carnrick's factories by fire will not, we learn from the *Dietetic Gazette*, prevent the firm from filling orders pending the completion of the new building, as their stock on hand in New York is large.

The State Board of Medical Examiners of New Jersey will meet in the Senate Chambers at the Capitol in Trenton, on Thursday, October 9th, at nine o'clock in the morning, for the purpose of examining candidates presenting themselves for a license to practice medicine in the State. Under the present medical law of the State every person desiring to practice medicine or surgery, in any of its branches or in any way, who was not legally registered previously to July 4, 1890, must first obtain a license from the board. Any further information will be furnished by the secretary, Dr. William Perry Watson, of Jersey City.

The American Rhinological Association will hold its eighth annual meeting in Louisville on Monday, Tuesday, and Wednesday, the 6th, 7th, and 8th inst., under the presidency of Dr. Arthur G. Hobbs, of Atlanta, Ga. The programme announces the president's address and papers or remarks in discussions by Dr. A. B. Thrasher, of Cincinnati; Dr. T. H. Stucky, of Louisville; Dr. E. R. Lewis, of Indianapolis; Dr. L. B. Gillette, of Omaha; Dr. J. G. Carpenter, of Stanford, Ky.; Dr. John North, of Toledo, O.; Dr. C. T. McGahan, of Chattanooga; Dr. C. H. von Klein, of Dayton; Dr. E. C. Painter, of Pittsburgh; Dr. J. H. Coulter, of Peoria; Dr. Emmett Walsh, of Grand Rapids; Dr. A. De Vilbiss, of Toledo; Dr. R. S. Knode, of Omaha; and Dr. T. F. Rumbold, of San Francisco.

The Woman's Medical College of the New York Infirmary.—Dr. George Thomas Jackson has been appointed professor of dermatology in this institution.

The New York Academy of Medicine.—At the next meeting of the Section in Pædiatrics, on Thursday evening, October 9th, Dr. W. L. Stowell will present a Study of One Hundred Cases of Pneumonia in Children. The meeting will be held in the Academy's new building in West Forty-third Street.

The Tri-State Medical Association of Alabama, Georgia, and Tennessee will hold its next meeting in Chattanooga on Tuesday, the 14th inst., under the presidency of Dr. J. B. Cowan.

The Paris Pasteur Institute.—According to the *British Medical Journal*, Professor Metschnikoff, of Odessa, the distinguished Russian bacteriologist, has been appointed head of the Pasteur Institute in Paris, under the general direction of M. Pasteur.

Changes of Address.—Dr. F. Irving Disbrow, to No. 139 West One Hundred and Fourth Street; Dr. Henry Macdonald and Dr. Belle Macdonald, to No. 251 West Fifty-second Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 14 to September 27, 1890:*

By direction of the Acting Secretary of War, the following changes in the stations of officers of the medical department are ordered: Spencer, William G., Captain and Assistant Surgeon, will, upon the abandonment of Fort Bridger, Wyoming (his present station), report in person to the commanding officer of Omaha, Nebraska, for duty at that station, relieving Bradley, Alfred E., First Lieutenant and Assistant Surgeon. Lieutenant Bradley, on being relieved by Captain Spencer, will report in person to the commanding general, Department of the Platte, for duty as attending surgeon at the headquarters of that department. Par. 16, S. O. 214, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, the leave of absence granted Suter, William N., First Lieutenant and Assistant Surgeon, in Special Orders No. 149, June 26, 1890, from this office, is extended fourteen days. Par. 6, S. O. 214, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, the leave of absence for seven days heretofore granted McElderry, Henry, Major and Surgeon, by the Superintendent of the U. S. Military Academy, is extended to November 10, 1890, on account of sickness. Par. 5, S. O. 214, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, Cochran, John J., Captain and Assistant Surgeon, now on duty at Fort Adams, Rhode Island, will proceed to Mount Vernon Barracks, Alabama, and report in person to the commanding officer of that post for temporary duty, and on completion of the duty contemplated, he will return to his proper station. Par. 2, S. O. 214, A. G. O., Washington, D. C., September 12, 1890.

By direction of the Acting Secretary of War, leave of absence for three months, commencing about October 1, 1890, is granted Ives, Frank J., Captain and Assistant Surgeon, provided one of the Acting Assistant Surgeons serving in the Department of the Missouri can be assigned to duty in his stead, at Fort Sill, Oklahoma Territory, during that time. Par. 26, S. O. 213, A. G. O., Washington, D. C., September 11, 1890.

Kimball, J. P., Major and Surgeon, is, in view of the early abandonment of Fort Elliot, Texas, to which post he is at present assigned for station, relieved from duty at that post, and will, upon the expiration of his present sick leave of absence, proceed to Fort Supply, Indian Territory, and report to the commanding officer for duty. Par. 2, S. O. 132, Department of the Missouri, September 24, 1890.

Under the provisions of General Orders No. 43, c. s., Headquarters of the Army, Adjutant-General's Office, the post of Little Rock Barracks, Arkansas, will be abandoned, to take effect not later than October 1, 1890.

Brown, Paul R., Captain and Assistant Surgeon, will accompany Company E to Fort Supply, Indian Territory, and there take station until further orders. G. O. 15, Headquarters Department of the Missouri, St. Louis, Mo., August 11, 1890.

Ewing, C. B., Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect the 1st proximo. Par. 5, S. O. 131, Department of the Missouri, September 22, 1890.

Appel, Aaron H., Captain and Assistant Surgeon. The leave of absence for seven days granted by the commanding officer, Fort D. A. Russell, Wyoming, is extended twenty-three days. Par. 3, S. O. 70, Department of the Platte, September 17, 1890.

Middleton, Johnson V. D., Major and Surgeon, is relieved from duty at David's Island, N. Y., and will report in person to the commanding officer, Fort Columbus, New York city, for duty at that station, relieving Major Joseph R. Gibson, Surgeon, and reporting by letter to the commanding general, Division of the Atlantic. Par. 1, S. O. 219, A. G. O., Washington, September 18, 1890.

Gibson, Major, on being relieved by Major Middleton, will report in person to the commanding officer, David's Island, N. Y., for duty at that station, and by letter to the superintendent of the recruiting service. Par. 1, S. O. 219, A. G. O., Washington, September 18, 1890.

Society Meetings for the Coming Week:

Monday, *October 6th:* American Rhinological Association (Louisville—first day); New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Monmouth, N. J., County Medical Society (Freehold); Chicago Medical Society.

Tuesday, *October 7th:* American Rhinological Association (second day); New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Medical Societies of the Counties of Broome (annual), Columbia (annual—Hudson), Orange (semi-annual—Goshen), and Schoharie (semi-annual), N. Y.; Medical Association of Northern New York (annual—Malone); Hudson, N. J. (Jersey City), and Union, N. J. (quarterly), County Medical Societies; Chittenden, Vt., County Medical Society; Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *October 8th:* Mississippi Valley Medical Association (first day—Louisville); American Rhinological Association (third day); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Franklin (quarterly—Greenfield), Hampshire (quarterly—Northampton), Middlesex South (Cambridge), and Plymouth (special), Mass., District Medical Societies; Philadelphia County Medical Society; Kansas City Ophthalmological and Otological Society.

Thursday, *October 9th:* Vermont State Medical Society (annual—Montpelier); Mississippi Valley Medical Association (second day); New York Laryngological Society; New York Academy of Medicine (Section in Pædiatrics); Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *October 10th:* Vermont State Medical Society (second day); Mississippi Valley Medical Association (third day); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties (anniversary).

Saturday, *October 11th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

Proceedings of Societies.

MEDICAL SOCIETY OF VIRGINIA.

Twenty-first Annual Session, held at Rockbridge Alum Springs, on Tuesday, Wednesday, and Thursday, September 2, 3, and 4, 1890.

The President, Dr. Oscar Wiley, of Salem, in the Chair.

The proceedings were opened by a prayer by the Rev. Dr. E. F. Garrison, of Philadelphia, and an address of welcome by Dr. J. Edgar Chancellor, resident physician at the Springs.

The Hunter McGuire Prize of one hundred dollars, offered for the best essay on the diagnosis, pathology, and treatment of chronic cystitis in the male, was awarded to Dr. R. M. Slaughter, of the Theological Seminary of Virginia. After the award, Dr. McGuire stated that he would award another prize of one hundred dollars, at the next annual session of the society, to any practitioner residing in Virginia, West Virginia, or North Carolina, who would present the best essay upon some subject soon to be determined upon and announced by the secretary of the society.

The President's Address.—The President delivered an address, which was full of wit and good suggestions, and of special interest to the profession of Virginia.

The Summer Diarrhœa of Children.—A lengthy discussion was held on this subject, in which the old doctrines were maintained, with additions of whatever was valuable as the results of recent observation and research.

Officers for the Ensuing Year were elected as follows: President, Dr. William W. Parker, of Richmond; vice-presidents, Dr. J. W. Dillard, of Lynchburg, Dr. Jacob Michaux, of Richmond, and Dr. H. M. Patterson, of Staunton; recording secretary, Dr. Landon B. Edwards, of Richmond; corresponding secretary, Dr. J. F. Winn, of Richmond; treasurer, Dr. Richard T. Styll, of Hollins; chairman of executive committee, Dr. Hunter McGuire, of Richmond. To deliver the address to the public and profession during the session of 1891, to be held in Lynchburg some time in October, Dr. Charles M. Blackford, of Lynchburg. Leader of a discussion on acute dysentery during the session of 1891, Dr. P. B. Green, of Wytheville. Dr. Alfred C. Palmer, of Norfolk, was elected to fill a vacancy from his congressional district on the Medical Examining Board of Virginia.

Report on Ophthalmology, Otology, and Laryngology.—Dr. Robert L. Randolph, of Baltimore, chairman of the Section, reviewed two important articles which had appeared in recent numbers of Graefe's *Archives of Ophthalmology* on antisepsis in the operation for cataract. The reviewer concluded, from the opposite views held by the two authors—von Graefe, of Halle, and Steffan, of Frankfort—that the former was correct, and that antisepsis, in spite of the doubt cast upon its value by the able paper of Steffan, was indispensable in cataract operations. The reporter referred to the suturing of the cornea after cataract operations, and gave the opinions of French ophthalmic surgeons. He alluded to the recent treatment of detachment of the retina by injection of tincture of iodine. He spoke of the value of a solution of fluorescein as a means of diagnosticating corneal lesions, and concluded with a short review of the experiments of Kolinski and himself upon the lower animals—namely, the production of cataract by feeding the animals on naphthalin.

Advance in Laryngology and Otology.—Dr. William F. Mercer, of Richmond, in reporting on this subject, called attention to the conclusions of Lemon in his investigation in regard to the transformation of benign growths of the larynx in consequence of intralaryngeal operations; the early treatment of naso-pharyngeal and throat affections in young growing children as a cure or prevention of certain derangements of the nervous system and impairment of the intellectual power existing or shown later in life; nasal intubation as an easy and ready mode of cure in hypertrophy of the soft intranasal tissues, deviations of the cartilaginous septum, fractures, etc.; the easy and certain means of diagnosis of empyema of the antrum of Highmore by the illumination of the maxillary bones by an electric lamp introduced into the mouth; and the importance of perfectly free drainage in otology. He called special attention to the great importance of the early recognition of and treatment for acute suppurative otitis media following scarlatina, thereby greatly reducing the high percentage of deaf-mutism from this cause.

When shall we operate for Cataract and Strabismus in Children?—Dr. Charles M. Shields, of Richmond, read a paper with this title. He said that the text-books seemed to ignore the question, and that as a large proportion of the cases of cataract in children were of the zonular variety, allowing some vision, the operation was generally put off until they were from ten to thirteen years old, an age at which the retina had often lost its functional activity from disuse. His last five cases were cited in support of the argument for early operation. Three of them were in children between the ages of ten and thirteen, and, although the operation was successful in obtaining a clear pupil, the visual results were not very satisfactory. The two others of the series were much younger—one three years old, the other six months. Both were needled and gave the most satisfactory results. The reader thought the earlier the operation for cataract in children, the better the result, for the following reasons: First, in the young the eye was more tolerant of surgical procedures; second, the child was given all the benefit in gaining education that vision secured; and thirdly, the permanent visual results were better than would be obtained at a later age. As to the age for operation in strabismus, he thought that usually suggested (six or seven years) early enough in alternating squint, as vision in either eye did not suffer from delay; but where the strabismus was confined to one eye, the unilateral form, the earlier the patient was operated on the better. In this form of squint, vision was constantly suppressed in one eye, and amblyopia from disuse resulted, making the eye useless. The operation should be performed in the monolateral variety as early as it was recognized.

The Modern Treatment of Strabismus.—Dr. Alexander Duane, of Norfolk, presented a paper on this subject, in which he insisted upon the necessity of careful testing before, during, and after the operation. Adopting Mauthner's classification of squint into spastic, accommodative, concomitant, and paralytic, he pointed out that in the first two varieties the indication for treatment was mainly causal, while in the last two only was there the question of an operation. In concomitant squint he insisted strongly upon the difference between cases with tension and with relaxation of the tendons, and cited a remarkable case of the latter, in which an operation totally opposed to that called for by the appearances in the case had led to very striking good results. In paralytic squint he adopted v. Graefe's treatment—viz., in paralysis of a lateral rectus or an oblique muscle, tenotomy of the associated antagonist (sometimes in the former case re enforced by tenotomy of the direct antagonist or by advancement of the paretic muscle), and in paralysis of the superior or inferior rectus, advancement of the affected muscle.

Otitis Furunculosa.—A paper was presented by Dr. John Herbert Claiborne, Jr., of New York, in which he summed up his conclusions in the following way: 1. Furunculosis of the outer ear is a local disease. 2. The cause is the transmission by rough means beneath the skin of pyogenic microbes. 3. The prognosis is good, both as to the life and hearing of the individual. 4. The treatment consists in local antisepsis (solutions of boric acid, carbolic acid, etc.), moist heat, and incision of the furuncles when they point.

Catarrhal Otitis Media, or Aural Catarrh.—Dr. Laurence Turnbull, of Philadelphia, who had been invited to attend the session, read a paper which treated mostly of the results of the disease. He said, in passing, that most of the so-called hearing-restorers acted most injuriously upon the sensitive ear, and were of no benefit except to those having a hole or perforation of the drum membrane, or to those who suffered relaxation of the small bones of the ear which became sometimes separated from the membrana tympani. In many instances they had acted as a foreign body; and when they had a metal stem, as was often the case, they were sure to set up a "running ear." The only form of artificial covering to the diseased perforation of the drum membrane should be a delicate gauze or rubber, charged with an antiseptic solution, to protect the ear from the floating microbes in the air and from temperature changes. He then detailed at length a correspondence with a patient who had tried to use some of the artificial aids referred to.

A New Method of lifting the Epiglottis.—Dr. C. M. Blackford, of Lynchburg, presented a paper describing a method devised by Dr. Samuel P. Preston, of Lynchburg. The instrument used consisted of an ordinary laryngeal silver probe, with the last half inch bent so as to make a right angle with the remainder. Rings were soldered on the shaft of the probe through which the third and fourth fingers of the left hand were passed. The probe was introduced and the bent portion pressed down on the glosso-epiglottidean ligaments. This pressure tightened the ligaments and thus lifted the epiglottis. This instrument was used in the Throat Clinic in Vienna. By holding the laryngeal mirror with the thumb and forefinger of the left hand, with this elevator between the third and fourth fingers of the same hand, the right hand was left free for use. The pressure of the probe was not great enough to cause retching, and did not cause special inconvenience to the patient.

Palpo-traction.—Dr. Alfred C. Palmer, of Norfolk, introduced in a short paper a new form of treatment akin to massage which he called by this title. He stated that many distortions of the lids might be improved resulting in lasting benefits by this conservative plan. He alleged no good results unless used in infancy when the tissues were pliable and easily molded by manipulation. He asked the obstetricians to pay strict attention to the formation of the lids of the new-born, and in all forms of entropion, ptosis, contracted palpebral fissures, etc., to begin at once and shape the lids and retract them to their proper forms and positions. He also asked ophthalmologists to pay attention to this subject.

Advances in Materia Medica and Therapeutics.—Dr. L. H. Keller, of Luray, presented the report, in which he called attention to forty-three newly introduced drugs or preparations.

The Diagnosis of Pelvic Disease, or when to operate.—Dr. I. S. Stone, of Lincoln, read a paper with this title, in which he urged the importance of early recognition of cases suitable for operative treatment. He maintained that the profession was practically a unit as to the early removal of large tumors, and also as to the treatment of pyosalpinx and extra-uterine pregnancy, as the electricians evidently had the worst of the argument. There were also many cases which were not so easy to diagnosticate, but required prompt attention or they might be fatal. The salpingitis of rural districts might easily become pyosalpinx by infection with the poison of gonorrhœa. The author maintained that pyosalpinx was rare in the country for the reason given above—the comparative rarity of gonorrhœa. Salpingitis did occur frequently following puerperal diseases, but often ran its course and left no trace afterward. Its symptoms were those of pelvic peritonitis and might result in grave and alarming symptoms. The writer illustrated the diagnosis of some rather obscure cases of pelvic disease by citing cases and commenting on them, showing how often these cases were allowed to run an indefinite course when they could be promptly cured by resort to abdominal section. He also plainly called attention to the importance of recognizing the cases of neurasthenia which simulated so closely cases of real pelvic disease, but did not require any operative treatment whatever. The importance of recognizing tubercular disease of the appendages was also urged, which, according to the writer's views, were not infrequent.

Honorary Fellow Dr. George T. Harrison, of New York, in opening the discussion of Dr. Stone's paper, said there were only one or two points in it that he thought the subject of criticism, for in general it was an excellent presentation of the subject of diagnosis of pelvic diseases and when to operate. Dr. Stone had seemed to treat puerperal malarial fever as a disease of minor importance. He remarked that Dr. Fordyce Barker had been the first to draw prominent attention to this disease, which was not a rare one in certain communities. In New York, for instance, it was quite a common complication or sequel of labor. But it was not always easy to trace the development of the disease to its proper cause. It undoubtedly belonged to the puerperium. He reported a case recently under his observation in which the delivery had been conducted under the most perfect aseptic principles, and yet about a week after labor puerperal malarial fever had set in and lasted seven weeks. Rheumatism, by the way, was a frequent sequel of this fever, according to his observation.

As to the operation of removal of the uterine appendages, it had of recent months or years been very much abused. Novices, and specialists of high standing as well, were performing laparotomies with a recklessness that demanded the cry of "Stop!" He related the case of a lady who had been urged by a prominent laparotomist to have her ovaries removed for some trouble which he told her would render her an invalid for life. She declined the operation, however, and a year later became a mother. The speaker did not deny the value of the operation in certain selected cases, but he opposed this popular wholesale removal of the ovaries and appendages, and thought their causeless removal should be rebuked as severely as Baker Brown's wholesale removal of clitorides had been years ago. It should be remembered that some cases of mental derangement even had followed the removal of these sexual organs of the female. It was a difficult matter to decide when to operate, and no one should undertake the operation until after the exhaustion of every other possible means of relief—unless, of course, it was apparent that the ovaries or appendages were structurally diseased.

The matter of extra-uterine pregnancy was about the most important subject that claimed the attention of the obstetrician as well as the laparotomist. The condition was too often overlooked until it was too late to give to the patient the benefit of surgical art. The diagnosis should be made early in order that an operation might save life. Tait's pathology of extra-uterine pregnancy was all wrong. He confounded hæmatocele and hæmatoma with extra-uterine pregnancy. Hæmatocele was an effusion of blood into the peritoneal cavity about Douglas's *cul-de-sac.* Hæmatoma was an escape of blood into the folds of the broad ligament alone. But in extra-uterine pregnancy of the tubal variety, after the probable cessation of one or more menstrual periods, there was often an irregular hæmorrhagic discharge *per vaginam*, which very generally preceded rupture of the tube for several days.

Dr. Joseph Price, of Philadelphia, present by invitation, wished to emphasize all that Dr. Harrison had said as to reckless operations. Laparotomies had been too much overdone by those who had not a sufficient purpose in view. They should be undertaken only for an objective disease—not for a subjective one. More of this kind of work had been done in New York than anywhere else on this continent, and there the operation had undoubtedly been abused. Furthermore, many operations had been undertaken without having been at all well done; and such imperfect operations had brought discredit upon pelvic surgery. The time had come when simply opening the abdomen should not cause death. This was proved by the results of Dr. McGuire's operation of suprapubic cystotomy. Even the mortality resulting from laparotomies for the removal of ovarian, tubal, or uterine diseases had now become reduced to about two per cent. The speaker then exhibited some drawings of suppurating tubes by Dr. Coe, only to condemn them; they were very unfortunate and misleading. If pus could be diagnosticated in the female pelvic cavity anywhere, cut for it as you would do for a pus-cell anywhere else in the body. Extirpation of the ovaries, etc., should have no less an object in view than to save life. The day of so-called "normal ovariotomy" was past. But he would advise that all forms and sizes of fibroids be extirpated as soon as recognized. He also insisted upon the exercise of the greatest degree of caution as to intra-uterine examinations and medications. Dr. Emmet said that he had not passed a uterine sound for years. He had been called upon a hundred times to do abdominal sections to cure the results of electrical uterine applications; and the same might be said of the results of forcible, rapid dilatations of the uterine neck, and other intra-uterine procedures. Of course there were some diseases that required intra-uterine medications, but we should be very cautious in resorting to such methods of treatment. He never dilated a cervix, nor would he pass a uterine sound—he was afraid to do so. More attention should also be given to the occurrence of gonorrhœa in wives who were innocent of the thought of a wrong on the part of their husbands. The ravages of this disease among women were twice as great as those of small-pox. As to extra-uterine pregnancy, Virginia had a right to be proud of her gifts to the army of obstetrical surgeons. Bingham, of this State, about a hundred years before, had done the first scientific operation for extra-uterine pregnancy, and about nine years later a second one.

Honorary Fellow Dr. Hunter McGuire, of Richmond, remarked that Dr. Harrison had said that Dr. Fordyce Barker had been the first to call attention to and name puerperal malarial fever. But it was the late Dr. Otis F. Manson, of Richmond, who had first described and designated the condition, and now Dr. Barker recognized this claim of priority. Dr. Price had said that the man who employed a sound or made intra-uterine medications ought to have his head shaved. If the speaker had had a strand of hair removed for every one he had made, he said that he would be bald-headed. Dr. Battey was a good man and a great surgeon, and was the pioneer in important gynæcological work; but Battey's operation of normal ovariotomy would become obsolete. In the speaker's opinion, it was a crime to take out normal ovaries for any nervous or hysterical condition. Some years ago he had done it, but he regretted it; it did no permanent good. When there was some pathological change in the ovaries or tubes, then, after failures by other means, the operation should be done; but all other means should be first exhausted. He himself had obtained much good in such cases from the use of galvanism. He did not agree with Dr. Price that all fibroids should be removed. In nine out of ten cases that came to him, he advised the patient to let the tumor alone. If the growth was stationary or nearly so, giving rise to no pain or mechanical obstruction, he would let it alone. If the gentleman knew how common fibroids were among negroes, and how many negro women were working to-day with fibroids of the uterus, in no way disabled for work by the tumor, he would not advise operation in all cases.

Dr. Joseph Hoffman, of Philadelphia, present by invitation, remarked that not many years ago every surgeon was sewing up perinæums and uterine cervices. But Emmet arose and protested against such procedures. The speaker said that Battey's operation had been given a fair test and had failed, and should hereafter be done away with. Others thought that all diseases of women were essentially cellulitis; but in ninety-nine cases out of a hundred this was a mistake. Tait had only revised the pathology of forty years ago, and evidently got it from Nonat, who fully discussed the subject as a circumuterine and lateral phlegmon about 1846. Surgery ought to be resorted to in these cases only for the purpose of relieving pain or else to save life. Many had punctured pelvic abscesses in the hope of curing them, but they had never been thus cured. To open one pus cavity in the tubes did not empty all the reservoirs of pus, because these tubal pus cavities were like links of sausage. Hæmatocele was very rare. Mr. Tait said when it did occur it was often mistaken for extra uterine pregnancy. Exploratory incisions should be used only as guides to the surgeon to see whether or not he could cure a given case. One should never cut down upon an abscess or a tumor in the abdomen, and half finish the operation. Such half-finished operations injured surgery in the esteem of the profession as well as the people. Scraping the mucous surface of the uterus with curettes, etc., was bad practice. Laparotomies had been shown to be comparatively devoid of danger under modern modes of procedure; so when such operations were required, operate early. Undoubtedly the surgeon should exercise common sense in selecting his cases for laparotomies as for other operations, and there could be no question as to the abuse of this operation by many surgeons—by some, even, of great eminence. But because an operation was abused by some it was not totally unjustifiable in certain cases.

Dr. Edwin S. Ricketts, of Cincinnati, present by invitation, confined his remarks to a review of the history of ovariotomy and abdominal sections generally—suggested by the fact that the society was now meeting within a few miles of the birthplace of the immortalized McDowell in this (Rockbridge) county. Bringing his subject down to the present time, he thought that now the operations of opening the female pelvic abdomen were too hastily undertaken by surgeons who sought rather to make reputations for daring than to save the lives of their patients. Discredit came upon surgery whenever an operation was undertaken without a previous diagnosis and a consideration of the points which determined prognosis. He hoped the profession would frown down such reckless surgery, and keep surgery always lifted upon the platform of humanity, such as had prompted McDowell to undertake the first ovariotomy, and such as would ever make the profession commend it to their patients.

Dr. Isaiah H. White, of Richmond, spoke of the importance of an early diagnosis and prompt removal of an extra-uterine pregnancy. The doctor generally knew nothing about the danger just ahead until the sudden collapse and other evidences of rupture of the tube indicated too plainly that his patient was dying from rupture of an extra-uterine gestation sac into the peritoneal cavity. But if such a state of things passed by and the woman rallied and got well of the effects of such a rupture, or if gradual extrusion of the fœtus from the tube so occurred as never to lead the surgeon to know where rupture was, and if the fœtus became encapsulated in a new sac, etc., the extra-uterine pregnancy might remain for years in a quiescent state, the fœtus being dead, and no apparent risk of life of the patient occurring by reason of such extra-uterine pregnancy. He had known a case where an extra-uterine pregnancy had remained indolent for years, until finally a normal intra-uterine impregnation occurred. Many cases were reported where the diagnosis of extra-uterine pregnancy had been first made by the ulceration of fœtal bones through the rectum, etc., the pregnant condition years before not having been more than suspected at the time, and the idea dismissed by both patient and friends because of the recurrence of the apparently normal menstrual function. Such cases suggested that, in cases of supposed or diagnosticated extra-uterine pregnancy, before rupture of the tubes into the peritoneal cavity, if the mother would not consent to operation, the fœtus should be killed by galvanism; then the ovum might remain in its sac simply as an innocent foreign body. The known laws of accommodation on the part of nature to gradually developed abnormal conditions might lead to the final safe removal of the fœtus piecemeal, by self-protective ulcerations through the rectum, etc. Hence it was yet a field for discussion as to the propriety of always insisting upon an operation for an old extra-uterine pregnancy. But when an operation was decided on, what were known as the "remnants" of an extra-uterine conception, excluding the fœtus itself, were most probably altogether the products of the inflammatory action set up at the time of the passage of the fœtus through the tube into the peritoneal cavity. The strictured portions of the pus-tube, which gave that canal the appearance of rolled sausage, were due to adhesive perimetric bands formed around the tube. As to the so-called "normal ovariotomy," Dr. McGuire had deplored the results obtained by him. Undoubtedly he was correct. In fact, it might not be too much to say that some of the survivors of the operation regretted that they were alive.

Dr. Landon Carter Gray, of New York, present by invitation, said that the further resort to "Battey's operation" and the like for the cure of nervous diseases would be a crime. Years ago Baker Brown had properly been expelled from the profession because of his useless clitoridectomies. The great name of Dr. Sayre, a short while ago, had given authority for unnecessary circumcisions for the relief of some nervous troubles. Stevens's wholesale cutting of eye muscles for the treatment of chorea and other nervous diseases should likewise be condemned. No such operations should ever be considered panaceas, and they should not be undertaken except when there was a clearly defined requirement for them other than the simple nervous trouble. In almost all the cases where such mutilations had even apparently done good, such relief was of only temporary duration, showing that the supposed cure was in reality the result of a psychological action. "Normal ovariotomies" had unquestionably appeared to do good in a small proportion of instances upon this very principle; but in all the cases so operated on that had come under his observation, the attacks had returned with even greater severity than the original sickness. As long ago as 1828 this principle of mental impression was put to a thorough therapeutic test by Esquirol, and the results of his experiments should be kept ever before those of the profession who still insisted upon experimental operations. He divided his cases of epilepsy, etc., into groups. To one group he gave one class of remedies, with the addition of strong mental encouragement. To another group he gave another class of medicines, with the same encouragement as to the benefit to come from the "new treatment." To another group he gave another class of remedies, etc.; while to still another group he gave simply colored water, etc. Each group of cases did equally well for a season, but relapses soon began to occur, and all the patients fell back to the former degrees of sickness. Up to the present time no remedy had stood the test of prolonged experience in epileptic forms of diseases, unless it was the bromides. Undoubtedly operations had been most beneficial when performed upon the strongly impressionable class of patients; but this very fact confirmed the suggestion that most probably one operation would do about as well as another. If this was so, then, in the name of humanity, whatever might be the amount of impression that you wished to leave upon your patient, perform that operation which was least serious in its possible results of unsexing the individual, or otherwise mutilating her. To make a simple incision somewhere, and yet let the patient believe that a severe operation had been performed, would do as much good in most cases as the real operation.

Dr. William W. Parker, of Richmond, could not understand why all this hue and cry had been raised of late years about the danger of ordinary uterine treatment, unless it was another case of the cry of authority against every-day experience. Of course, judgment and gentleness were as essential in such treatment as anywhere else. He believed intra-uterine injections were perfectly safe, if the precautions usually recommended were faithfully observed. In a large practice daily since the war he had used them without ever hearing of harm resulting.

Dr. Harrison said that he would not have himself recorded as *in toto* opposed to Battey's operation, for there were troubles of a serious nature that he had seen relieved, if not cured, by "Battey's operation" for apparently moderately diseased ovaries. But Dr. Battey's original error—which, however, had since been corrected—consisted in naming his operation "normal ovariotomy." He thought Dr. Battey justly entitled to the credit of having pointed out a new and important gynæcological field for thorough study.

Dr. Stone, in closing the discussion, thought it proper to remark that Dr. Barker's puerperal malarial fever was often nothing but the evidence of the existence of pus in the Fallopian tubes. He would not, however, undertake to deny that there was a pure puerperal malarial fever, as Dr. Manson had described prior to Dr. Barker's mention of the subject. As to Battey's operation, he had never done but one, and the result was unsatisfactory. Hence he stood simply as an interested listener of the remarks that had been made by practitioners of such large experience and extensive reputation, whose dicta would go far in shaping or establishing subsequent professional opinion on the subject.

Vertigo was the title of a paper read by invitation by Dr. Landon Carter Gray, of New York. He stated that there was a vertigo due to organic disease and a vertigo of functional nature. An important generic distinction between these two was that organic vertigos were accompanied by less irritability and apprehension on the part of the patient than were the functional ones. If of organic origin, the vertigo must proceed from disease of some one or more of the abdominal or thoracic viscera, the spinal cord, the intracranial organs, or the ear. Examine the urine always repeatedly both chemically and microscopically for albumin and casts and test the arterial pressure by sphygmographic tracings. But the speaker's observation showed that kidney, heart, and organic liver troubles caused slight vertigo, lasting only a short time. In renal vertigo there was usually a headache that had at times a tendency to hebetude or coma; occasionally there were convulsions and general or local œdema. In hepatic vertigo there would usually be some degree of hebetude or jaundice or dropsy. Almost all intracranial lesions would cause vertigo, which, in certain of them, would be pathognomonic. For instance, cerebellar lesion would produce a swaying, staggering gait, called titubation, or the patient would stagger markedly to one side, or he was suddenly whirled in a semicircle. If Dr. Dana's observations proved correct, temporal-lobe lesions might produce similar symptoms. Spinal-cord diseases were not apt to cause more than slight vertigo, with the exception of certain cases of locomotor ataxia, where dizziness was common when the patient was standing with his eyes closed. Aural diseases, especially of the middle ear or labyrinth, also often caused vertigo.

But the form of vertigo which caused most distress was chronic, coming on in sudden paroxysms, varying from a sudden, uneasy sensation of loss of equilibrium to such uncertainty of gait as to make the patient dread going out in the street and frequently accompanied by symptoms of other nervous disturbance, such as furriness and tingling of the extremities, a feeling of distention or fullness about the head, usually at the vertex, with slight ringing in the ears, a certain irritability and nervousness, and often a mild degree of insomnia. It was rare in children, not infrequent in the elderly, but was most frequent in young and middle-aged adults. This vertigo was extremely obstinate, often lasted for years after the attending nervous symptoms had disappeared, or it might be the only symptom throughout. It was prone to occur in northern climates in the first warm months of the year, and severe cases occurring at this time did not begin to recover until after cold weather had set in. It was made worse by heat and temperature alternations; in extreme cases, even going from a cold into a heated room would cause attacks. Nervous prostration was common —a form of neurasthenia. Generally the tongue was unaffected. The urine usually contained uric acid or oxalate of calcium. The cause of this symptom-group was a matter of discussion. The older writers treated of it as a stomach vertigo, but Murchison thought it due to liver derangement, producing excess of uric acid; hence the name he gave it—lithæmia. The speaker was not satisfied with this explanation, for many cases did not present a tangible evidence of hepatic derangement, nor had we ever established a standard by which we could say what was an excess of uric acid; besides, in some cases, the uric acid had been extremely small in amount; and again cholagogues, such as calomel, aggravated the vertigo, and often the nervous symptoms also. He had now come around to adopt the old theory, that the vertigo was of gastric origin, including the entire digestive track. The majority of cases of this peculiar form of vertigo were due to some chronic and persistent error of digestion, either of the nitrogenized or starchy elements of food, or of both. Constipation without coated tongue or foul breath was common in this error of digestion. It occurred in those personally or hereditarily predisposed to gout or rheumatism. The exciting causes were, however, mental or physical overwork, great anxiety, malaria, or a very sedentary life. For therapeutic purposes he grouped his cases with this form of vertigo into (1) those in whom the general neurasthenia was slight, and (2) those in whom it was severe. In the non-neurasthenic cases, begin with twenty drops of dilute nitromuriatic acid before meals in a wine-glass of water and one drachm of fluid extract or two grains of solid extract of cascara sagrada three times daily. Take this amount of cascara continuously, reducing it if it produces more than two feculent actions a day. During the same period interdict the red-meat diet entirely. The patient would feel less dull, have less of the sense of distention of the head, and feel generally better, although the vertigo would probably be unaltered. After about ten days stop the acid and give pepsin and pancreatin, the pepsin immediately after meals and the pancreatin an hour and a half after. This treatment would more generally relieve the vertigo than anything else he had tried. After a time gradually restore the meat, but only once a day. In the neurasthenic cases his treatment was the same, with the addition of rest, in rare cases putting the patient to bed for two or three weeks. It was better to err on the side of enforcing too much rather than too little rest. In differing so radically from others on this point, he had only to say that his experience had taught him to so differ.

Dr. William W. Parker agreed with Dr. Gray that the chronic vertigo described was of dyspeptic origin, and hence recommended rigid diet.

Dr. Hunter McGuire said that the cases of vertigo so well defined by Dr. Gray were due to lithæmia, and originated in some derangement of the portal system. If the liver acted well—to use the common expression—the vertigo did not occur. But inactivity or a deranged action of the liver was not always shown by a furred tongue, etc., for that might be red and moist, while the fæcal discharges were grayish or puttyish. But there was always some evidence of gastric or bowel fermentation, as shown by greater or less eructations an hour or two after eating. Acting upon the suggestion thus derived, he had got benefit from the following plan of treatment: Use a good cholagogue for two weeks or so, so as to get one or two feculent actions a day; and then give for about a month, three times daily, just after meals, minute doses of corrosive sublimate—from one sixtieth to one eightieth of a grain—in solution or pill. Afterward give a perfectly neutral solution of the hypophosphites of lime and soda after each meal. The syrups of the hypophosphites as found in the shops were injured by the amount of sugar they contained.

Dr. Isaiah H. White was satisfied that the form of vertigo described was due to lithæmia or to some of the waste products of digestion that were not properly eliminated. Possibly ptomaines developed.

Mr. Hugh Blair, of Richmond, fraternal delegate from the Virginia Pharmaceutical Association, had long since come to the conclusion that this was a lithæmic vertigo. Evidences of impaired portal circulation and function were always found in such cases. Lithæmia was but another expression for the gouty disposition, and was due to disordered or fermentative digestion.

Permanent Drainage of the Male Bladder by a Retained Cannula introduced above the Pubes.—This was the title of a paper read by Dr. George Ben. Johnston, of Richmond. He said that Dr. Van Buren had devised the best instrument for the purpose that he knew of—consisting of an outer cannula, an inner tube, and a trocar. After quoting descriptions of these, Dr. Johnston stated that he had added to the instrument a steel guide, of double the length of the trocar, over which the outer cannula might be easily drawn out of the bladder and replaced without fear of losing its course. After describing the simple operation of opening the bladder above the pubes, and how to retain the instruments, he remarked that both acute and chronic cases were benefited by the proposed treatment. Conditions so benefited were urinary retention, injuries of the urethra or prostate, acute prostatitis, perineal abscess, urinary extravasation, coagula in the bladder, chronic cystitis, enlarged prostate, or cancer of this gland, or of the bladder, urinary fistulæ, sacculations, adynamia, etc.

The Present Status of Abdominal Surgery.—Dr. Joseph Price, of Philadelphia, Pa., read a paper on this subject.

Early Exploratory Incision as an Aid to the Diagnosis of some Surgical Diseases of the Abdominal Cavity.—Dr. Edwin Ricketts, of Cincinnati, read a paper on this subject. He had found it difficult in many cases to make a diagnosis previous to exploratory incision. To open the abdomen was easy enough, but afterward to do always the best thing and that promptly, knowing when to end at exploration, bearing in mind that half-completed surgical procedures are rarely ever excusable; these were of greatest consideration.

Nervous Disorders following Organic Stricture of the Urethra.—Dr. Hunter McGuire read a paper thus entitled. He related a number of cases in which paralysis, apoplexy, or cerebral disease of some kind had followed long-standing stricture. In none of these cases was there renal disease. In his practice he had seen sclerosis of the lower portion of the spinal cord follow old strictures. He concluded the paper thus: Are all of these cases mere coincidences? Urethral strictures are so common, and diseases of the nervous center so frequent after middle life, and the interval of years between the formation of the strictures and the appearance of nervous troubles so great, that it is difficult to say that one is dependent upon the other. As it is, however, I can not help thinking that long-existing urethral strictures may set up reflex irritation in one or more of the nervous centers, and, this persisting, ends in pathological change in one form or another.

The Salient Points in Appendicitis; its Diagnosis and Treatment, was the subject of a paper read by Dr. Joseph Hoffman, of Philadelphia.

Remarks upon Anteflexion of the Uterus was the title of a paper read by Dr. George Tucker Harrison, of New York. The normal position of the uterus in the erect woman, when the bladder and rectum were empty, was that of anteversio-flexio, the place of flexion being at the junction of the cervix and body. But when the bladder was distended, the uterus was lifted up physiologically and its posterior wall lay in juxtaposition with the anterior wall of the rectum; it was both retroposed and retroverted. While the bladder was being emptied, the fundus uteri described an arc which corresponded to an angle of from 45° to 60°. The characteristic feature of pathological anteflexion was simply the stability of the flexion. The causes which made the flexion permanent were either in the organ itself or operated on it from without. Metritis or infarction belonged to the first class of causes, while parametritis posterior, parametritis chronica atrophica, and perimetritis belonged to the second and more frequent class of causes, and were more permanent in effect. When metritis attacked an anteflexed uterus, the angle, which up to that time had been variable, became fixed. The symptoms usually associated with anteflexion were dysmenorrhœa and sterility. This painful dysmenorrhœa was not mechanical, but was due to the associated metritis. The sterility also was attributable to the accompanying endometritis, oophoritis, and perimetritis. If these inflammations were removed, and if the perimetritis had left no permanent pathological changes, conception might ensue, notwithstanding the existence of parametric cicatricial tissue or permanent anteflexion. The diagnosis of this pathological anteflexion depended alone on the demonstration of the stability of the flexion. Bimanual palpation, or the establishment of the fact that the anteflexion persisted even when the bladder was distended, or the discovery that the folds of

Douglas's sac were shortened or thickened, were the means for deciding as to the stability of the flexion. As to treatment, it was of prime importance to try to remove the parametritis posterior, or perimetritis and results. If the uterus was supersensitive, scarify it just prior to menstruation, and the dysmenorrhœa would be moderated. For the persistent uterine catarrh, wash out the uterine cavity with a solution of carbolic acid after dilatation with aseptic laminaria tents, followed by steel dilators. Lately he had been very much pleased with ichthyol, incorporated with lanolin, applied around the portio vaginalis, in clearing up old perimetric and parametric adhesions.

Epilepsy.—Dr. M. D. Hoge, Jr., read the Report on Advances in Neurology, confining his remarks more especially to this disease. We were perhaps more indebted to Hughlings Jackson for the clearest explanation of convulsions than to any medical writer of recent date. Three classes of convulsions were made, corresponding to the three levels of the nervous system. An epileptoid seizure was due to the high instability of certain cortical cells, produced by the nutrient fluid bathing the cells becoming comparatively stagnant, and in consequence there was inferior nutrition, a "substitution nutrition," whereby the phosphorus compounds became more nitrogenous, or *vice versa.* What was the best form, then, of food for the nerve cells? Seguin had stated that the central nervous system and peripheral nerves were largely made up of fatty substances. In the ash of the cerebral substance the phosphates existed to the extent of 93·5 per cent.

Dr. J. D. Eggleston, a fellow of the society, had come nearest to the question of a cure for epilepsy, and to him the writer was largely indebted for the following method: The treatment was a combined one, partly direct and partly symptomatic. The first step was to supply the brain with proper food; this could best be accomplished by the use of cod-liver oil, combined with the hypophosphites of calcium and sodium, and a diet consisting largely of fatty food was enjoined. Every source of external irritation must be carefully looked into and corrected; it might be eye-strain, nasal polypi, malpositions of the uterus, or phimosis. Remove these sources of constant irritation, which were continually sending nervous impressions to an anæmic brain, and, there accumulating, it became surcharged, its equilibrium was disturbed, and a nervous explosion —an epileptic fit—took place.

No specific power could be ascribed to atropine. The chief benefit to be derived from its use was the paralyzing effect it had on the whole muscular system. The spasmodic contraction at the throat and the violent movements of the body during a convulsion were, in a great measure, controlled. Another important effect produced by its use was the time between the aura and the convulsion itself was long enough to allow the patient to lie down or take some sedative.

The use of bromides could not be dispensed with entirely at first. The patient must carry in a convenient pocket by day, or under the pillow at night ready for instant use, a solution of bromide of sodium ten grains, chloral hydrate five grains, to the drachm. It should be immediately swallowed whenever the aura was felt, a slight fainting sensation, or any vague fear of an impending attack.

The treatment which gave the best results in epilepsy was a combined one, nutritive, antispasmodic, and sedative, represented by cod-liver oil, atropine, and bromides.

Removal of a Large Vesical Calculus per Vaginam.—Dr. E. M. Magruder, of Charlottesville, reported a case. The stone was about two inches by three inches, and had caused a fistulous opening of about five eighths of an inch in diameter in the vaginal wall. He reported the steps of the operation adopted for its removal by enlarging the vesico-vaginal opening, and, as the stone seemed adherent, pieces of it had to be removed at a time, instead of by lifting it out of its pouch.

Honorary Fellows.—Dr. L. Ashton, of Falmouth, received the unique and unanimous compliment of election as honorary fellow of the society without ever having been president. In numerous ways he had rendered most valuable services to the society, and, as he was about to leave for Dallas, Texas, it was a fitting expression of the esteem in which he was held by the Virginia profession to so elect him.

The retiring president, Dr. Oscar Wiley, was also elected an honorary fellow.

RICHMOND, VA., ACADEMY OF MEDICINE AND SURGERY.

Meeting of September 9, 1890.

The President, Dr. W. W. Parker, in the Chair.

(*Reported by Dr. J. W. Henson, Richmond.*)

Simple Ulcer of the Rectum was the subject for discussion, in the opening of which Dr. Louis C. Bosher read a paper in which he said that he had selected this subject, not with the intention of writing a lengthy paper, but simply to report a very interesting and troublesome case of this disease that had fallen into his hands last year. In October last he was called to see a young married lady who was suffering intensely from a persistent diarrhœa and nervous prostration. She had become very much emaciated and was very anæmic. He had learned that she had been a sufferer for eight or ten months from diarrhœa, and during that time had lost some forty or fifty pounds in weight. She had told him that she had received treatment from a number of physicians, one of whom had informed her that she had a chronic diarrhœa and was beyond the control of medicine, and another that she had consumption of the bowels, and intimated that it was only a question of time.

When the speaker saw her she had just returned from one of our alum springs, where she had been constantly under the care of a physician. To complicate matters, a pelvic abscess had formed during her stay at the springs, and had broken before she reached home. Under this double drain on her system she had wasted to almost a skeleton, and had become completely bedridden. The abscess had discharged quite freely *per vaginam*, but finally, under active treatment, had ceased with an improvement in her general health. The diarrhœa, however, had continued off and on, notwithstanding the free use of remedies. The patient had now begun to complain of a slight protrusion and of a smarting, with an unsatisfied feeling whenever she went to stool. She had also complained of a dull, aching pain at the end of the backbone. After the development of the above-named symptom the speaker had made an examination of the rectum with the rectal speculum. When the sphincter was slightly dilated there was a slight discharge of pus and mucus from the bowel. On withdrawing the blades of the speculum somewhat, an ulcer was discovered, about an inch and a half in diameter, occupying the anterior wall of the rectum just above the internal sphincter. The speculum was then removed, and, by inserting the finger into the vagina, the bowel was turned outward, bringing the ulcer fully into view. After cocainizing the ulcer and slightly scraping it, he had made an application of nitrate of silver.

When he saw the patient on the following day he was informed that the dull pain in the lower end of the backbone was very much improved, and that there had been only one movement from the bowels in twenty-four hours, and this one had been unaccompanied with the usual rectal tenesmus. Previous to the discovery of the ulcer and the application of silver, there had been from three to six movements in twenty-four hours. This treatment was repeated at intervals of five or six days for some little time before the ulcer healed. The diarrhœa had now been absent for some six or eight months, and, although she was very emaciated and anæmic, she was doing very nicely and was enjoying a stay in the mountains.

He had reported this case for two reasons—firstly, to emphasize the importance of diarrhœa as a persistent symptom in some forms of rectal ulcer; secondly, to call attention to the long train of nervous symptoms which had followed its presence, and which, with the diarrhœa, had been entirely relieved by removal of the cause.

During her confinement to bed this patient had been the subject of constant attacks of hysteria. She was now comparatively free from all hysterical symptoms.

Allingham, in his work on the rectum, said: "Ulceration of the rectum is not an uncommon disease. It inflicts great misery upon the patient, and, if neglected, leads to conditions quite incurable. As the earlier manifestations are fairly amenable to treatment, it is of the utmost importance that the disease should be recognized early. Unfortunately, it rarely is so, the symptoms are obscure and insidious, the suffering at first but slight, and thus the patient deceives not only himself but his medical attendant."

Now, what were the symptoms of this affliction and what the causes producing it? Diarrhœa was an early symptom, occurring early in the morning—frequently as soon as the patient got out of bed. There was a most urgent desire with an unsatisfied feeling, requiring the patient to remain long at stool. A dull, aching pain located at the end of the backbone was another symptom.

Blood, sometimes mixed with pus and mucus, often escaped from the rectum. When the ulcer was complicated with a fissure in the anus the most intense suffering, often lasting for hours, would occur, especially after stool. Pruritus ani caused by the ichorous discharge from the ulcer was another very annoying symptom. So blood poisoning of the different organs of the body might occur when the ulcer had begun to break down, and, in its destruction of tissue, pus, mucus, and impure blood were excreted.

Prominent among the causes of rectal ulceration was catarrh of the rectum, or proctitis, which might be brought on by exposure to cold, sitting on cold surfaces, etc. So the lodgment in the bowel of fish or chicken bones, fruit stones, buttons, seeds, pins, etc., which had been accidentally swallowed, might set up severe forms of ulceration. Operations for hæmorrhoids and accidents in childbirth, too, might be numbered as among the causes. Constipation, the fæcal masses tearing the delicate mucous membrane of the rectum, was not an infrequent cause of ulceration. In the first edition of Kelsey *On Diseases of the Rectum and Anus*, he said: "It is much easier to give a lady a diarrhœa mixture and trust in Providence for a cure than to gain her consent to take ether and be thoroughly examined, and for this reason many a case of curable disease has been allowed to reach an incurable stage before its existence has been certainly determined. The existence of a chronic diarrhœa or of a discharge of any kind from the rectum is always a good and sufficient reason for a thorough physical examination, and with ether, a dilated sphincter, and a good speculum no one need be in doubt as to the existence of ulceration in the lower part of the rectum."

Would it not, then, be well in chronic forms of diarrhœa, failing to be relieved by the usual recognized treatment, to make an examination of the rectum with a speculum and exclude ulceration before pronouncing our patients the subjects of incurable forms of diarrhœa?

The President mentioned a woman who had recovered from a rectal ulcer three inches long.

Dr. J. S. Wellford thought that Dr. Bosher had made a good suggestion. He was sure that many cases of chronic diarrhœa and so-called chronic dysentery with great prostration were due to rectal ulceration and could be cured by the line of treatment suggested. As illustrative he reported two cases of abscess about the rectum and one case of rectal ulcer. One of the former had been particularly interesting because the patient had lost five or six ounces of tissue, the anus had been completely denuded, and the end of the rectum detached and hanging out, yet he had recovered. In one of these cases the speaker had been struck with the fact that the bismuth which had been given for the diarrhœa had continued to pass ten days or two weeks after its administration had been stopped. He therefore had no confidence in bismuth except as a protective in irritation, since it merely adhered to the bowel and was not absorbed. He also stated that it was not necessary to dilate in females, particularly if the parts were relaxed from age or often-repeated parturition; the finger in the vagina could readily turn out the rectum. Dilatation was best in the male to paralyze the sphincter.

Dr. Landon B. Edwards was desirous that other remedies be suggested for simple ulcer of the rectum in case the caustic treatment failed, as it sometimes did. He suggested bismuth and iodol (or iodoform) in equal parts. He had relieved a man by that treatment in about a month and a half or two months when he had run the gantlet of twenty-six doctors before reaching him. He stated that simple ulcer of the rectum was not common.

The President had seen Dr. Hunter McGuire cure a case absolutely by diet.

Dr. T. J. Moore had gained a valuable hint from the last-named case in the treatment of two cases of his own. The first was a man who, being told he had cancer of the rectum, had become positive that his bowel was so constricted that he could not get up a simple enema and that he only passed at stool a few drops of mucus through the muscular action of the bowel. He really had fourteen to twenty actions a day, and, while fæcal matter was there, yet the consistency was for the most part blood and mucus.

The speaker had convinced him of the absence of the constriction by injecting a quart of water, though the man had imagined it was running back into the basin. An examination had showed the whole of the lower part of the rectum excoriated. By a diet of stale bread and milk, and bismuth and salicin (internally) as medicines, he had been cured. He mentioned another case, a constriction complicated by an ulcer just above it. Dilatation and diet had effected a cure. He recommended (in males) salicin and bismuth internally and no local interference as a rule. Where the trouble involved the internal sphincter, dilatation by the thumbs was indicated. Here nitrate of silver seemed almost specific in healing and relieving pain. Iodoform very frequently relieved pain and spasm for a few hours. He mentioned a case in which for that purpose he had used it with marked success in suppositories.

Continued Fever.—The President stated that the young man whose case he had reported at the last meeting as resembling typhoid was still sick. He had complained of severe headache all along, and he had a dull look about the eye. The speaker was afraid of head trouble. The temperature had kept up from 101° to 103°. Dr. John R. Wheat, in whose charge the patient had been left for a while, had given full doses of quinine every morning, but without relieving the fever. His pulse was weak, but the skin was always moist and cool, tongue clean and moist; also he had a good appetite. At his request he had been allowed some soft eggs on Tuesday last, but they had acted on his bowels and had to be stopped. There had been for some days a too free discharge of high-colored urine—one quart in six or eight hours. It was acid, but contained no albumin or bile. There had been no tympanites from first to last, nor any approach to it. The prostration and emaciation were marked.

He took plenty of liquid food, large quantities of milk among other things, to keep up his strength. Was this typhoid? The speaker thought it was.

Dr. Edwards had searched the literature to get light upon the above class of fever. In volume i, Pepper's *System of Medicine*, he had found it described as "simple continued fever" by Hutchinson. There was not the dry tongue, the eruption, the decided tympanites, or the other characteristic symptoms of typhoid fever. Any solid food whatever would raise the temperature. Purging could be done without damage. He had a case now which had run sixty days. First the patient had typho-malarial fever, recovering in about fifteen days. Later on this continued fever had begun. He was now convalescing, but had a considerable urethritis, for which no cause could be assigned.

Dr. Wellford thought the amount of fever would account for the highly colored and acid urine as well as its high specific gravity (referring to Dr. Parker's report), and the amount of milk and other liquids taken would account for the quantity of urine.

The speaker called this continued fever typhoidal because, while it lacked most of the characteristic symptoms of typhoid, yet it resembled the latter in the prostration present and the continuous fever. He believed it was typhoid. It reminded him of typhoid in children where, owing to the non-development of Peyer's patches, etc., most of the characteristic symptoms were lacking. Dr. Coleman had said that any fever in children running over twenty-five or thirty days and not controlled by quinine was typhoid.

Dr. Moore thought the nature of this fever would the sooner and better be learned if every doctor would arrange to obtain the temperature of such patients twice a day, say between 7 and 9 A. M. and between 4 and 6 P. M. The more general knowledge of the thermometric variations in this fever thus gained would materially assist in the diagnosis of it.

The President suggested that, as the greatest prostration always occurred between 2 and 4 A. M., the temperature should be taken then as well as at the hours suggested by Dr. Moore.

Miscellany.

The Mississippi Valley Medical Association will hold its sixteenth annual meeting in Louisville on Wednesday, Thursday, and Friday, October 8th, 9th, and 10th, under the presidency of Dr. J. M. Mathews, of Louisville. Besides the president's address and an address by Dr. J. A. Wyeth, of New York, the programme contains the following items: On Infectious Dyspepsia and its Rational Treatment by the Antiseptic Method, by Dr. Frank Woodbury, of Philadelphia; Help and Hindrance to Medical Progress, by Dr. John H. Hollister, of Chicago; Therapeutic Uses of Cardiac Sedatives in Inflammation, by Dr. H. A. Hare, of Philadelphia; Mechanical Obstruction in Diseases of the Uterus, by Dr. George Hulbert, of St. Louis; The Construction of Bacteria, by Dr. J. T. Whittaker, of Cincinnati; A Fatal Case of Vomiting after Laparotomy, by Dr. T. A. Reamy, of Cincinnati; The Surgical Treatment of Uterine Fibroids, by Dr. R. Stansbury Sutton, of Pittsburgh; Fracture of the Lower End of the Radius, by Dr. P. S. Conner, of Cincinnati; Coffee, its Use and Abuse, by Dr. I. N. Love, of St. Louis; Treatment of Fracture of the Forearm by Extension, Counter-extension, and Fixed Supination, by Dr. X. C. Scott, of Cleveland; Flint's Doctrine of the Self-limitation of Phthisis, by Dr. William Porter, of St. Louis; Cough, its Relation to Intra-nasal Diseases, by Dr. A. B. Thrasher, of Cincinnati; A Case of Rhinoplasma—Operation, by Dr. A. H. Ohmaun-Dumesnil, of St. Louis; Chronic Diseases of the Joints, by Dr. Joseph Ransohoff, of Cincinnati; Cases of Penetrating Stab Wounds of the Abdomen, Laparotomy Results, by Dr. H. C. Dalton, of St. Louis; Gastro-enterostomy, by Dr. George Cook, of Indianapolis; Torsion of Arteries as a Means for the Arrest of Hæmorrhage, by Dr. J. B. Murdock, of Pittsburgh; The Psychic Sequences of an Entailed and Chronically Acquired Alcoholism, by Dr. C. H. Hughes, of St. Louis; A Résumé of Experience to Date all over the World in the Various Operations for Cystitis from Prostatic Hypertrophy, by Dr. W. T. Belfield, of Chicago; Fevers and their Treatment, by Dr. C. G. Comegys, of Cincinnati; Bromide Eruptions resembling Syphilitic Lesions, by Dr. W. T. Corlett, of Cleveland; Original Investigation in Medicine in the United States, by Dr. Frank S. Billings, of Chicago; Acute Ascending Paralysis, by Dr. Joseph Eichberg, of Cincinnati; Inguinal Colotomy, with Report of a Case, by Dr. Arch Dixon, of Henderson, Ky.; One Danger that Threatens the Physical Deterioration of the Whites in America, by Dr. E. A. Wood, of Pittsburgh; Urea and Serous Membranes, by Dr. C. S. Bond, of Richmond, Ind.; Hypnotism in its Relation to Surgery, by Dr. Emory Lamphear, of Kansas City; Certainty in the Diagnosis of Tuberculosis, by Dr. Theodore Potter, of Indianapolis; Bunions, by Dr. Robert T. Morris, of New York; The Hypodermatic Use of Arsenic, by Dr. Harold M. Moyer, of Chicago; Fractures of the Lower End of the Humerus, their Results and Medical Relations, by Dr. Reuben A. Vance, of Cleveland; A Review of the Treatment of Varicocele, with Cases, by Dr. G. Frank Lydston, of Chicago; Arthrotomy in Old Dislocations of the Elbow, with the Report of a Case, by Dr. Joseph W. Marsee, of Indianapolis; Perineal *versus* Suprapubic Cystotomy, by Dr. H. O. Walker, of Detroit; Herniotomy, with Reports of Three Novel Cases, by Dr. B. Merrill Ricketts, of Cincinnati; What a Doctor should not Expect, by Dr. A. N. Ellis, of Cincinnati; An Examination of the Pupils of the Kentucky Institute for the Blind, with Special Reference to Causation, by Dr. J. M. Ray, of Louisville; Myopia, by Dr. A. R. Baker, of Cleveland; Some Remarks on the Prevention of Myopia, by Dr. Francis Dowling, of Cincinnati; Malnutrition in Eye Diseases, by Dr. J. E. Harper, of Chicago; Absence of the Chorioidal Blood-vessels and Pigment, affecting both Eyes, by Dr. M. M. Cowgill, of Paducah, Ky.; Two Cases of Tubal Pregnancy, Operation, Recovery, by Dr. Edwin Walker, of Evansville, Ind.; Treatment of Organic Stricture of the Urethra, by Dr. Seaton Norman, of Evansville, Ind.; Exercises in the Treatment of Lateral Curvature of the Spine, by Dr. G. W. Ryan, of Cincinnati; Antipyretics, by Dr. F. C. Woodburn, of Indianapolis; The Difficulty in Diagnosticating a Twisted Ovarian Pedicle in Uterine Myoma, by Dr. Edwin Ricketts, of Cincinnati; The Treatment of Organic Stricture of the Urethra, with Special Reference to Perineal Urethrotomy, by Dr. Jacob Geiger, of St. Joseph, Mo.; Summer Complaint in Children, by Dr. Lyman Beecher Todd, of Lexington, Ky; Neurasthenia Fœminea, a Fashionable Disease, by Dr. Amos Sawyer, of Hillsboro, Ill.; Treatment of Epilepsy, by Dr. Philip Zenner, of Cincinnati; Internal Urethrotomy, with Cases, by Dr. J. V. Prewitt, of West Point, Ky.; Lacerated Wound of the Axilla from a Barbed Wire, by Dr. G. N. Rowe, of Randall, Kansas; Three Cases of Intestinal Obstruction, with Remarks, by Dr. David Barrow, of Lexington, Ky.; Was it Relapsing Fever? by Dr. A. D. Barr, of Calamine Springs, Ark.; When to Operate in Cases of Rupture in Ectopic Pregnancy, by Dr. C. A. L. Reed, of Cincinnati; Extra-uterine Pregnancy, with the Report of a Case of Four Years and Three Months' Duration, complicated with Eutero-uterine Fistula, by Dr. R. R. Kime, of Petersburg, Ind.; Dermoid Cysts of the Ovary, with Reports of Cases, by Dr. W. H. Wathen, of Louisville; The Application of the Antiseptic Method in Midwifery Practice, by Dr. L. S. McMurtry, of Louisville; Inflation with Hydrogen Gas for Diagnosis, *versus* Exploratory Laparotomy, in Intestinal Obstruction and Wounds of the Abdominal Viscera, by Dr. J. G. Carpenter, of Stanford, Ky.; Cerebral Syphilis, with the Report of a Case, by Dr. Frank R. Norbury, of Jacksonville, Ill.;

Simple Ovariotomy, by Dr. Orange G. Pfaff, of Indianapolis; The Treatment of Intermittent Fever, by Dr. Robert C. Kenner, of Louisville; Tuberculosis, Syphilis, Rheumatism, and Pelvic Hyperæsthesia, by Dr. J. A. Cutter, of New York; Treatment of Gonorrhœal Rheumatism, by Dr. Ap Morgan Vance, of Louisville; The Advantages of attending Medical Societies and of reading Medical Journals, by Dr. T. B. Greenley, of West Point, Ky.; Cerebro-spinal Concussion, by Dr. J. F. Barbour, of Louisville; and The Tonsil, by Dr. G. V. Woolen, of Indianapolis.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for September 26th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Sept. 20.	1,642,298	660	.	..	..	..	..	..	17	8	20	6	17
Chicago, Ill.	Sept. 20.	1,100,000	365	..	..	..	..	..	..	23	3	16	..	4
Philadelphia, Pa.	Sept. 13.	1,064,277	349	..	..	..	..	..	..	10	4	5	..	3
Brooklyn, N. Y.	Sept. 20.	871,852	350	..	..	..	..	..	..	4	2	13	3	4
Baltimore, Md.	Sept. 20.	500,343	169	..	..	..	..	..	..	9	..	4	..	3
St. Louis, Mo	Sept. 13.	460,000	147	..	..	..	..	..	..	4	1	3	..	1
Boston, Mass.	Sept. 20.	446,507	169	..	..	..	..	..	..	3	1	1	..	....
Cincinnati, Ohio	Sept. 19.	325,000	107	..	..	..	..	..	..	3	..	14	..	....
Washington, D. C.	Sept. 15.	250,000	125	..	..	..	..	..	..	7	..	3	..	....
Cleveland, Ohio	Aug. 9.	240,310	140	..	..	..	..	..	..	3	..	..	..	....
Cleveland, Ohio	Aug. 16.	240,310	87	..	..	..	..	..	..	7	..	1	..	....
Cleveland, Ohio	Aug. 23.	240,310	103	..	..	..	..	..	..	8	..	..	1	2
Pittsburgh, Pa.	Sept. 15.	240,000	85	..	..	..	..	..	..	12	2	2	..	1
Detroit, Mich.	Sept. 13.	230,000	77	..	..	..	..	..	..	1	..	8	..	....
Louisville, Ky	Sept. 20.	227,000	75	..	..	..	..	..	..	..	..	..	..	....
Milwaukee, Wis.	Sept. 20.	220,000	73	..	..	..	..	..	..	2	1	3	1	....
Minneapolis, Minn.	Sept. 20.	200,000	40	..	..	..	..	..	..	1	..	5	..	..
Rochester, N. Y.	Sept. 20.	135,000	51	..	..	..	..	..	..	2	..	..	..	1
Providence, R. I.	Sept. 20.	132,043	55	..	..	..	..	..	..	2	.	1	..	....
Richmond, Va.	Sept. 13.	100,000	37	..	..	..	..	..	..	..	..	4	..	2
Richmond, Va.	Sept. 20.	100,000	42	..	..	..	..	..	..	1	..	2	1	....
Nashville, Tenn	Sept. 20.	76,309	28	..	..	..	..	..	..	..	..	..	..	....
Fall River, Mass.	Sept. 20.	75,000	39	..	..	..	..	..	..	3	..	..	..	....
Charleston, S. C.	Sept. 20.	60,145	28	..	..	..	..	..	..	1	..	..	..	....
Portland, Me.	Sept. 20.	42,000	19	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas	Sept. 5.	40,000	15	..	..	..	..	..	..	..	..	..	..	....
Binghamton, N. Y.	Sept. 20.	35,000	15	..	..	..	..	..	..	2	..	1	..	....
Altoona, Pa.	Aug. 23.	34,397	13	..	..	..	..	..	..	1	..	..	..	....
Altoona, Pa.	Aug. 30.	34,397	11	..	..	..	..	..	..	1	..	..	..	....
Altoona, Pa.	Sept. 6.	34,397	6	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Sept. 12.	32,000	8	..	..	..	..	..	..	..	..	..	..	....
Yonkers, N. Y.	Sept. 19.	32,000	10	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y.	Sept. 20.	26,000	7	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Sept. 13.	22,011	10	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.	Sept. 20.	22,011	7	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I.	Sept. 18.	20,000	7	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill.	Sept. 14.	16,000	5	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Sept. 13.	15,000	6	..	..	..	..	..	..	1	..	..	..	....

An Opium Pill for Dysentery.—Dr. N. M. Geer, of Toronto, O., sends us the following formula:

℞ Pulv. opii	gr. xx;
Pulv. resinæ	gr. xxx;
Pulv. acaciæ	gr. xx;
Aquæ	q. s.

M., fiat massa in pilulas No. xxv dividenda.

S. One pill every four hours until relief is obtained. Dr. Geer says that he uses this pill with great success in obstinate cases of dysentery, and that the resin prevents the pill from dissolving before it has been carried low in the intestine. Old opium pills, that have become difficult of solution, are used by some practitioners with the same idea in view.

Aristol in Acne Indurata.—Dr. William Wickham, of Youngstown, O., writes as follows: The therapeutical agents recommended in cutaneous affections are numerous, but many of those used locally are objectionable for reasons well known to the dermatologist. Good local applications are very necessary, and in almost all cases, owing to their parasitic origin, are indispensable adjuncts to the general treatment. Among the best, according to my experience, is aristol. Having a case of acne indurata which stubbornly resisted the usual treatment, I concluded to use the new remedy, aristol, prescribing it in the form of an ointment of the strength of ten per cent. made with benzoated lard. It was applied at bedtime after having washed the surfaces affected—*i. e.*, the face and neck—with strong soap and hot water. In the morning the surfaces were again washed for the purpose of cleanliness. The ointment was applied every night as at first, and in about two weeks I dismissed the patient as cured. It is now several months since, and no return of his old trouble has occurred. I would add that I am now using aristol in the treatment of chronic eczema with gratifying results.

The Poisoned Arrows of the African Pygmies.—"From the pages of *In Darkest Africa* we learn that the poisoned arrows of the pygmies in the forest often made great havoc among Stanley's followers and produced intense suffering, and sometimes death by tetanus. Sometimes, however, death was more rapid, and one instance is given of death within one minute from a mere pin-hole wound. Mr. Stanley is not able to give the scientific names of the plants or animals from which these poisons are extracted, but states that one of a pitch-like consistency and color is made out of a species of arum; another is decocted from ants, which are crushed into a fine powder and mixed with palm-oil. The treatment found successful in combating the poison was to suck and wash out the wound and inject a strong solution of carbonate of ammonium, and to control the tetanic convulsions by hypodermic injections of morphine."—*British and Colonial Druggist.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, October 11, 1890.

Original Communications.

A CLINICAL STUDY OF FORTY-SEVEN CASES OF PARALYSIS AGITANS.[*]

By FREDERICK PETERSON, M. D.,
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This study is based upon the careful observation of twenty-nine cases of paralysis agitans in Dr. Starr's department of the Vanderbilt clinic; six cases from the nervous department of the polyclinic in charge of Dr. Sachs, and five cases from my wards in the New York Hospital for Nervous Diseases on Blackwell's Island. Besides these, Dr. Starr has kindly furnished me the notes of seven additional cases from his private records. Only forty of the total number of cases, therefore, have been personally examined by me.

For the purpose of practical study and easy survey, I have grouped the facts adduced from the cases under separate small headings—ætiological, symptomatic, pathological, and therapeutic.

ÆTIOLOGY.

Age at Onset.—The period of life at which the tremor began may be seen from the following table:

AGE AT ONSET.	Males.	Females.	Total.
30 to 40	2	1	3
40 to 50	7	2	9
50 to 60	12	11	23
60 to 70	7	3	10
70 to 80	1	1	2
Total	29	18	47

In the majority, then, it developed between the ages of fifty and sixty, while forty-two of the forty-seven cases were between forty and sixty years of age at the onset, thus agreeing with the statistics of other observers.

Sex.—The fact that men are more frequently affected by this disease than women is borne out by my figures. Of the forty-seven cases, twenty-nine were males and eighteen females.

Heredity.—It is a moot question whether a hereditary taint plays any particularly important rôle in the development of paralysis agitans. In only two of these cases could any such factor be suspected. They were the cases of a brother and sister. In the former it is still mild in its manifestations, while in the sister the disorder has led to irremediable contractures in both hands and both feet and to such general rigidity that locomotion is almost impossible, and even speech difficult. At the same time this may have been an instance of a communicated functional disease, analogous to *folie à deux*, which is usually a communicated insanity, and to imitated chorea and to hysteria major. The sister had the disease for many years previously. The brother had become nervous through overwork, and had some intention tremor of his fingers when first seen by me. The paralysis agitans has developed in him under my observation, and there has always been constant anxiety upon his part lest he should be afflicted like his sister. Possibly his continual observation of her and comparison of his own symptoms have actually induced them in himself. Some support is given to this idea by the cases of a husband and wife who are also of the forty I have studied.

Mrs. M. is now fifty-seven years of age and has the typical symptoms of Parkinson's disease. The tremor began four years ago in her left hand. Mr. M. is sixty-seven years of age, and about a year ago noticed some tremor in his hands which may have been simply senile; but within two months last past a rhythmical tremor, precisely like his wife's, has appeared in his right hand. He has also been fearful of becoming a victim to shaking palsy.

Occupation.—All the patients were from the common walks of life, but a few of them followed pursuits in which they were especially subjected to exposure to extremes of heat or cold. Thus, one was a night-watchman, one a coachman, one a messenger, one an engineer, and one an out-of-door laborer, and one worked as a tobacconist in a damp basement for thirty years.

Exposure to Cold and Wet as a Cause.—In eight cases the immediate cause given for the tremor was working in the wet and cold. Two of these patients, both men, date the onset of the disease from the famous "blizzard" of March 14, 1888, when New York was snowed in to such an extent that all travel was suspended for a day or two, and several people were lost and frozen to death in the streets. These two men were both out in the storm, and the tremor followed almost immediately upon the exposure to the cold and the exertion required to reach their homes.

Moral Causes (worry, anxiety, grief, excitement, and fright).—One of my patients was an illicit distiller of whisky, and the disease appeared soon after his discovery and trial and the confiscation of all his property. In three cases domestic infelicity was an ætiological factor. One woman developed it during an anxious period of nursing a dying mother, and another during a period of worry over her drunken son. One woman gave as a cause a sudden fright. In one man the tremor appeared soon after great excitement incident to a religious discussion.

Traumatic Causes.—In one woman the tremor began in the right arm subsequently to a fall from a step-ladder, and in another it followed a fall down stairs. A beautiful example of trauma as an exciting cause was that of a man who at the age of fifty-two was driving a refractory horse. The horse ran away and threw him out upon his left shoulder. No immediate harm was done, but paralysis agitans soon became manifest, the tremor beginning in the left arm. Fright must have also had a share in its production.

Miscellaneous Causes.—In one case fever and ague of three months' duration immediately preceded the development of Parkinson's disease. In another, articular rheumatism in the left foot was antecedent to the development of tremor in that extremity. One case, examined very recently, has followed closely upon an attack of *la grippe*. Among causes given by other authors are to be mentioned gout by Lhirondel (*Thèse de Paris*, 1883), and typhoid fever by Berger.

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[*] Read before the New York Neurological Society, May 6, 1890. See also a study of twenty-two cases of paralysis agitans in Professor Starr's book *Familiar Forms of Nervous Disease*, 1890.

Symptoms.

Tremor.—This is one of the most important symptoms of paralysis agitans, although, paradoxical as it may seem, a number of cases have been observed of true Parkinson's disease without the tremor. Thus, Charcot observed two such cases, Berger and Wienskowitz two, Buzzard one, Hardy one, Amidon one (*N. Y. Med. Record*, Nov. 24, 1883), and Beevor has lately described four (*Med. Soc. Proceed.*, 1889, vol. viii, p. 8). Rigidity, however, is always present when the tremor is wanting.

This symptom was present in all of the forty-seven cases. The extremities in which it first originated, as related by the patients, are tabulated as follows:

	Cases
Tremor began in right hand in	18
" " left hand in	20
" " left foot in	5
" " both hands (?) in	3
" " both feet (?) in	1
Total	47

The extent of the tremor at the time of examination may be gathered from the following:

	Cases
Tremor present in all four extremities of	12
" " all four extremities and head of	3
" " all four extremities and lips, tongue, and head of	3
" " both upper extremities of	4
" " both upper extremities and head of	2
" " both upper extremities and face of	1
" " both upper extremities and head and face of	1
" " both upper extremities and left lower of	3
" " both lower extremities and left upper of	2
" " left upper extremity only of	3
" " left upper and left lower extremities of	6
" " right upper extremity only of	3
" " right upper and right lower extremity of	4
Total	47

Charcot's statement that the head never takes part in the tremor, but is only moved by the contiguous movements of the upper extremities, has been proved to be unfounded in fact.* It will be observed that there was tremor of the head in nine of my forty-seven cases, and in all of these it was possible to determine the participation of the neck musculature in the tremor.

With the exception of the shivering from cold or terror, the tremor of paralysis agitans is almost the only one developed when the body is in a condition of rest. Almost all others belong to the class of intention tremors, or to such as are originated when the limbs are extended without support. Furthermore, the tremor varies greatly in extent and rate of rhythm at different times and even in different parts of the body of the same individual. We note in some cases that there may be a cessation of the tremor completely for an hour or two daily, or in others great diminution or increase for an indefinite period. Although usually an effort of the will can cause it to cease at least momentarily, yet occasionally it is uncontrollable. By means of an Edwards sphygmograph numerous tracings of tremors in various diseases have been taken by me at the Vanderbilt Clinic, some of which were made the subject of a short contribution on muscular tremor read before the American Neurological Association at Washington, September 20, 1888.* I determined the average rate of vibration of this tremor to be from 3·7 to 5·6 per second, agreeing with all other investigators (except Gowers), as will be seen from the following table:

Author.	PUBLICATION.	Rate to the second.
Marie	*Contrib. à l'étude*, etc.	5
Charcot	*Mal. du système nerv.*	4–5
Ewald	*Berl. klin. Woch.*, 1883, No. 32	5
Grashly	*Arch. für Psych.*, 1885	4·14–5·34
Huber	Virchow's *Arch.*, vol. 108, p. 45	3·43–5·57
Gowers	*Dis. of the Nerv. Syst.*, 1888, p. 1001.	4·8–7
Wolfenden & Williams	*Brit. Med. Jour.*, May 19, 1888	5·1
Peterson	*Jour. of Nerv. and Ment. Dis.*, Feb., 1889.	3·7–5·6

It is probable that all tremors are a modification of the rhythmic discharges of energy from the cortex, which, as is well known, take place at the rate of ten in a second. Consequently, when there are fewer to the second, it is because of the fusion of two or three impulses. The dicrotic character of the oscillations in paralysis agitans has been demonstrated by Wolfenden and Williams by means of specially constructed myographic apparatus.† Illustrations of the tremor of paralysis agitans taken from various portions of the body, and also a series of myograms from different diseases, are here inserted for comparison.

Rigidity.—This symptom was present in forty-one cases, although more marked in some than in others. In three it was absent and in three unnoted. As is well known, the rigor musculorum manifests itself in the extremities, trunk, neck, and face. The muscles of the eyes are extraordinarily seldom affected. Debove has reported cases where there was rigidity of the ocular muscles (*Le progrès médical*, 1878). In one case of mine the orbicularis oris was so inflexible that the patient had no control over it, and she driveled constantly. Rigidity of the lingual musculature was observed in a few cases, and probably a certain amount of stiffness of the muscles concerned in articulation and phonation accounts for the peculiarities of speech noted in some.

In two cases with a hemiplegic type of paralysis agitans affecting the left side the rigidity was limited with remarkable precision to the muscles of the left side of the head and neck, left arm and left leg, and even to the left sides of the tongue and orbicularis oris. There was no history or symptom of hemiplegia. We find commonly loss of power or an actual paresis in connection with the rigidity of the muscles.

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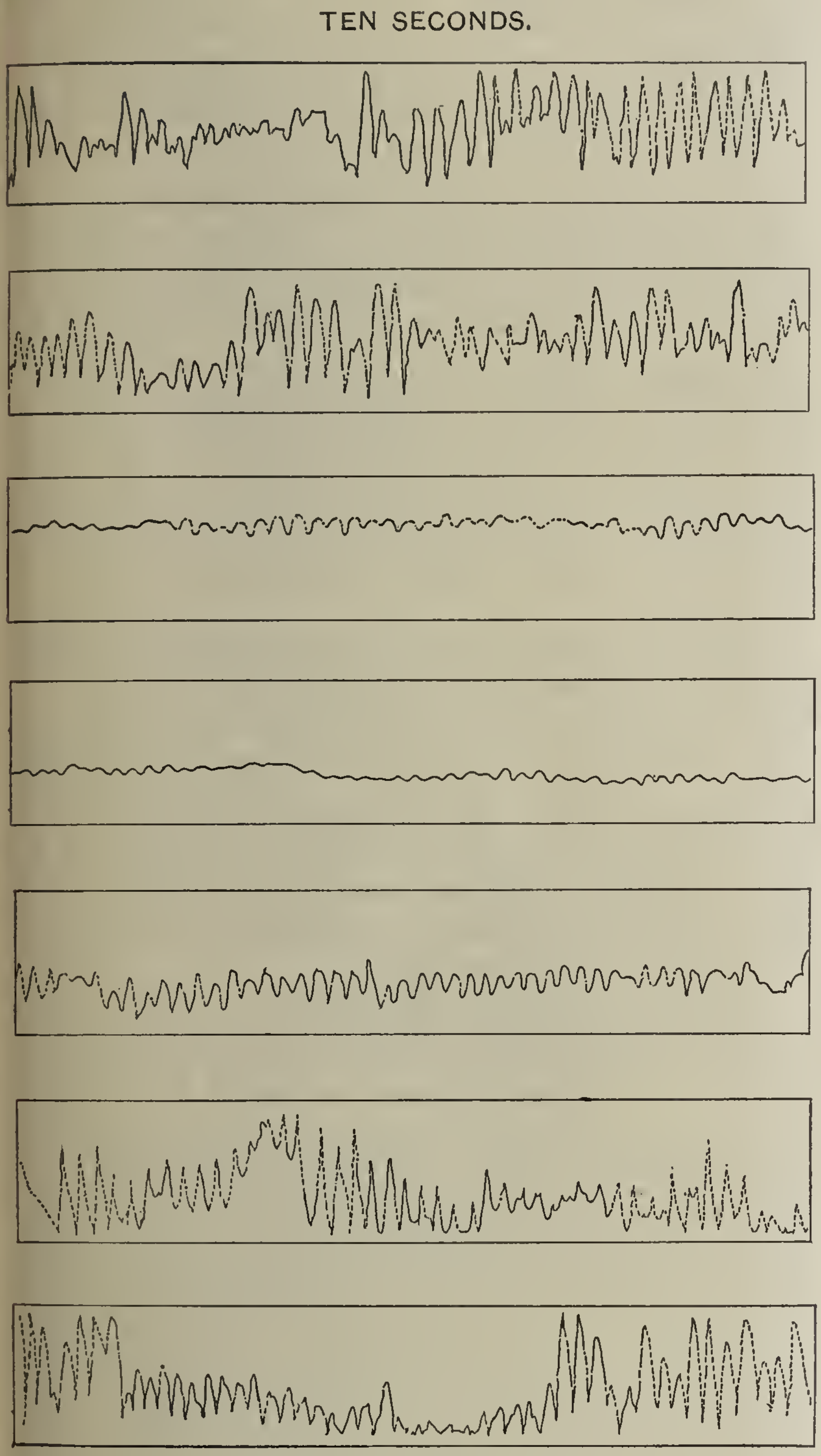
* The following are some of the authorities who have disproved Charcot's assumption: Oppolzer, *Spital Zeitung*, Nos. 17, 18, 1861. Clement, *Lyon médical*, No. 26, 1869. Jones, *British Med. Journal*, 1873. Westphal, *Charité Annalen*, iii. u. iv. Jahrg. Demange, *Revue d. méd.*, ii, 1882. Buzzard, *Clinical Lectures on Dis. of the Nerv. Syst.*, 1882. Huber, *loc. cit.* Gowers, *loc. cit.* (8 out of 37 cases).

* See *Journal of Nervous and Mental Disease*, February, 1889.

† *Loc. cit.*

Contractures.—Over eighty per cent. of the cases presented the typical position of Parkinson's disease as figured in the text-books. The bowed head, flexed elbows and knees, and flexed metacarpo-phalangeal joints are to be looked upon as species of contractures. Often the flexors of the forearm were so contracted that complete extension could not be made, and almost always an attempt to stretch them was painful.

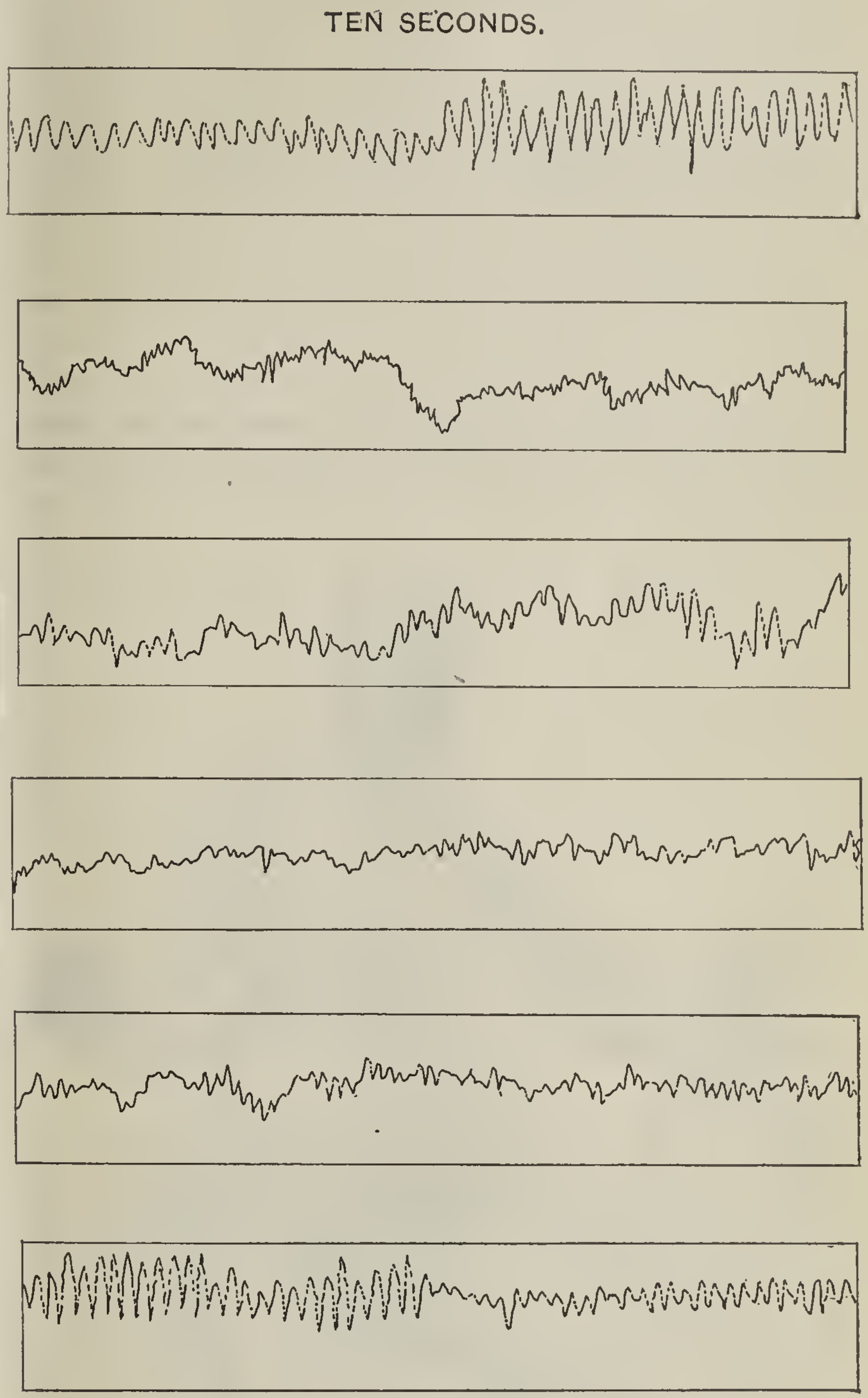


Tremor of Paralysis Agitans.

1.	Tremor of extensors of carpus of right hand, . . .	5·3 per second.
2.	" " " " . .	5·1 "
3.	Tremor of head while hands held a chair, . . .	4·4 "
4.	" " " " . . .	4·6 "
5.	Tremor of head, no effort with hands to keep steady, .	4·8 "
6.	Tremor of Intcrossei, ...	4·5 "
7.	" "	4·9 "

Two patients, both women, were completely helpless with the most advanced degree of contracture that I have ever seen in this disease. They both had double talipes equinovarus and absolute ankylosis of all the joints of the hands in the characteristic postures of fingers and wrists, but of an extremely exaggerated type. They could move their thighs when placed in a standing position, so that they could walk when supported by another; but it was impossible for them to turn in bed or rise from a chair.

Muscular Wasting.—It is not uncommon to observe some wasting of the muscles in cases of long standing, but this is not always apparent unless the disease is of the unilateral type. A patient now under my care at the New York Hospital for Nervous Diseases exhibits this phenomenon to a remarkable degree. R. B., aged sixty, admitted February 27, 1890, has for nine months past suffered from a typical tremor and a gradually increasing weakness and stiffness confined to the left side. It began in the hand and now involves the left face, arm, and leg. The middle and ring fingers are strongly contracted into the palm. There is also now some tremor in the right arm and leg. It is very marked in the tongue and lower facial muscles. There is a striking atrophy of the left arm and leg as com-



A Comparative Series of Myograms of Various Tremors.

1.	Paralysis agitans, ...	4·7 per second.
2.	Morbus Basedowii, ...	11·7 "
3.	Multiple sclerosis, ...	5·4 "
4.	Hysterical tremor, ...	7·7 "
5.	Neurasthenic tremor, ...	7·4 "
6.	Delirium tremens, ...	5·6 "

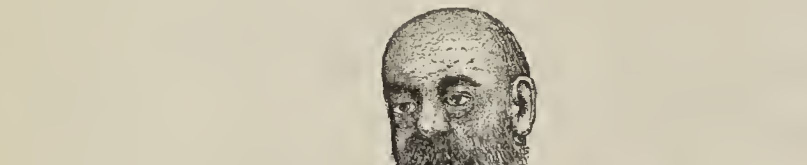
pared with the right extremities, but it is especially marked in the abductor and opponens pollicis, abductor indicis and minimi digiti, interossei, and adductors of the thigh on the left side. The measurements of the circumferences are as follows:

Showing the amount of wasting in a case of paralysis agitans where the disease was limited to the left side.

CIRCUMFERENCE OF—	Right.	Left.	Difference.
Arms: 18 cm. below shoulders.	25·5–23	22·5–20·5	2·5–3
Forearms: 15 cm. below elbows	21 –19	18 –16·5	2·5–3
Thighs: 15 cm. above patellæ.	37 –34·5	35·5–33	1·5
Legs: 15 cm. below patellæ. .	29 –27	28 –26	1

The faradaic reaction in the wasted muscles was normal.

His rigidity was so great that he could not be photographed in good position, but the accompanying photograph shows the wasting and contractures in the elbow and fingers.



Propulsion, Retropulsion, Lateropulsion.—Fifteen cases presented no peculiarity of gait as evidenced by "running after the center of gravity." Propulsion, or festination, alone was observed in twelve, and retropulsion alone in three. Both propulsion and retropulsion were of frequent occurrence in nine cases, and lateropulsion remarked in but one. Anton Heimann, who reports in detail nineteen cases of Parkinson's disease in his exhaustive monograph (*Ueber Paralysis agitans*, Berlin, 1888), noted the occurrence of lateropulsion also in but one case. Gowers speaks of one. A tabular view of the relations of these phenomena of locomotion in forty cases where they were inquired into is here appended:

	Males.	Females.	Total.
Propulsion only	7	5	12
Retropulsion only	1	2	3
Both propulsion and retropulsion.	5	4	9
Lateropulsion.	1	. .	1
No peculiarity of gait.	9	6	15
Total.	23	17	40

Tendon Reflexes.—In only nine cases were the knee, wrist, and elbow jerks exaggerated. In six they were hypertypical and in all the rest normal. The exaggeration was never so marked as in cases of organic disease of the cerebro-spinal segment of the motor tract, and indeed no greater than is commonly observed in people of advanced age, where we ordinarily expect an increase of the deep reflexes. In one of Dr. Starr's private cases where tremor was limited to the left hand, the left knee-jerk was exaggerated and the right absent. Ankle clonus was not obtained in any.

Electrical Changes.—In one case of eight years' standing with the disease limited wholly to the left side I was enabled to demonstrate conclusively diminished neuro-muscular contractility to faradism upon the affected side. This corroborates Benedikt, who noted many years ago a diminution of electrical irritability in affected extremities of old cases. His further statement that neuro-muscular contractility is markedly increased in such parts in recent cases I had no opportunity to confirm.

The Voice and Speech.—Buzzard, in a clinical lecture on shaking palsy (*Brain*, January, 1880), called attention to the high pitch and piping quality of voice in some cases of the disease, and other authors have mentioned the occasional peculiarity of a sort of halting ejaculation of words. There were distinctive characteristics of articulation and phonation in no less than thirteen of the forty-seven cases. There is probably no question that these changes depend almost wholly upon a certain amount of rigidity in muscles concerned in speech and vocalization. The especial features I have noted in the thirteen cases are, firstly, a condition of monotonia, as though there were difficulty in adjusting the vocal cords for the purposes of varying the pitch; secondly, a high pitch and piping quality of tone, which may possibly depend upon a certain minute degree of contracture in the crico-thyreoid, posterior crico-arytænoid, and internal thyreo-arytænoid muscles. A laryngologist might make an interesting study of vocalization in this disease. Thirdly, there is often what has been well termed a species of festination in speech. There is some difficulty in starting a sentence, a hesitation upon the first word, but, that word having been articulated, the patient rapidly repeats the whole sentence if a short one; if it be long, he pronounces quickly five or six words, and then stops to readjust his muscles apparently before ejaculating another series. There are points of analogy between the festination of gait and that of speech.

Thermal Paræsthesia.—An excessive feeling of heat over the whole body, or more rarely in limited areas, has been mentioned by various writers as frequent in Parkinson's disease. Charcot found no alteration of temperature in such cases, while a later observer, Berger, maintained that while the general temperature was normal there might be a marked peripheral increase. This subjective sensation of heat I noted in seven of my cases—in six general, in one limited to the abdominal surface. This last patient, a man (C. D.) aged sixty, had continually such a feeling of intense heat over his abdomen that he was constrained to keep constantly lifting his clothing from that surface. I placed an Immisch thermometer carefully covered upon his abdomen for seven minutes, and an ordinary clinical thermometer under his tongue for the same length of time simultaneously. The abdominal surface had a temperature of 97°, the mouth 98·5°.

At the summer meeting of the French Society for the Progress of Sciences (*Ctrlbl. für Nervenheilk.*, Nov. 15, 1889), Mossé, of Montpellier, reported his observations upon this matter in two cases of the disease. He found no actual increase of peripheral temperature. In one case the thermal paræsthesia was coincident with broad patches of superficial redness on the back of the hands and under surfaces of the forearms. He regards this sensation of heat, as well as the exanthema and œdema sometimes observed in shaking palsy, as phenomena due to disturbance in vaso-motor centers.

Paræsthesia of Cold.—This symptom was present in five of the forty-seven cases. One woman (R. M.), aged sixty-five, whose tremor began in the left arm, has always had a subjective sensation of cold in that arm. A man (T. F.), aged sixty-eight, who has the disease confined to both arms, complains of a feeling of great cold in those extremities. I observed no particular coldness of the arms upon examination.

Miscellaneous Paræsthesiæ.—Patients often complain of numbness and prickling, sometimes of rheumatoid or neuralgic pains in the extremities. One man had shooting pains in his legs; another a dull, aching pain in the three extremities affected; another numbness in the hands and soles of the feet; another much pain in his two arms, which were the seat of the disease; still another had burning pains in his limbs. Two women also complained of pains in the affected members. Anæsthesia has never been noted.

Hyperidrosis.—This symptom, if it is present, is, as a rule, associated with thermal paræsthesia, and in all likelihood depends upon the vascular relaxation which seems to give rise to the feeling of heat. Hyperidrosis existed in but four of the forty-seven cases, and in these the perspiration was very profuse and the sensation of heat extreme.

Restlessness.—Very many cases have a feeling of general discomfort, a species of *anxietas tibiarum*, only distributed over the whole body. It makes them exceedingly restless, especially at night. Seven of the forty-seven patients made particular mention of this trying symptom.

Tachycardia.—Although Marie and Azonlay (*Progrès méd.*, 1885, No. 49) speak of the frequency of this symptom in cases of paralysis agitans, it existed in but one of the cases here collected, a man, aged fifty-four, with a pulse of 120.

Mental State.—In many cases diminished intelligence or veritable psychoses have been described in connection with Parkinson's disease, but there was only one thus affected out of my forty-seven cases. The exception was a woman who developed first an acutely melancholic condition with auditory and visual hallucinations, and is now considerably demented. Many patients are more or less depressed by their hopeless and uncomfortable state, and in many there are present loss of memory and mental weakness which should be considered merely senile in character.

Pathology.

I have had no autopsy in any of these cases. Postmortem examination has thus far failed to discover any lesion to account for the disease. It is doubtless one of those so-called "functional" diseases of the motor areas of the cortex due to nutritive changes of a degenerative character. The weakness, clonic movements of the muscles, rigidity, contractures, and unilateral development of the disease point to the cortex as its seat. The postures of the hands and feet are similar to those of hemiplegia, epilepsy, and tetany. The unilateral development is like that of monoplegia, hemiplegia, and chorea. Yet, though the rigidity is also like that of the paralyses of cerebral origin, it is difficult to explain the absence of spasticity, the deep reflexes being usually normal. The vaso-motor symptoms, giving rise to sensations of heat or cold, unilateral sweating, general hyperidrosis, and sometimes œdema and the rheumatoid pains, are not easily explicable on any acceptable hypothesis. But it is possible that changes in the peripheral nerves may some time be discovered, which would account for some of these peripheral disturbances, and perhaps also for the more than ordinary wasting occasionally observed in these cases.

Treatment.

The exact pathology of the disease not yet having been determined, all treatment has thus far been more or less symptomatic, and directed in particular toward diminishing the tremor. The following is a list of some of the more important therapeutic agents that have been employed, and if they have no other interest, they have at least some pessimistic significance: Potassium bromide and iodide, tincture of veratrum, veratrin (Féris), chloride of barium (Brown-Séquard), carbonate of iron (Elliotson), strychnine (Trousseau), ergotine, Calabar bean (Ogle), chloral hydrate, opium, morphine (Heimann), atropine, belladonna, gelsemium, curare, hyoscyamine (Charcot), Fowler's solution (Eulenburg, hypodermically), coniine (Berger), and eserine (Riess).

Hydrobromide of hyoscine was first used in paralysis agitans by Dr. Langdon, of the Hudson River State Hospital, and myself. In a paper on the employment of this drug in cases of insanity, published in the *Medical Record* in 1885, we called attention to a case of paralysis agitans in which the tremor ceased entirely while the patient was under its influence.* In a discussion upon the treatment of this disease before this society about a year and a half ago I also spoke of the efficacy of this drug in diminishing the tremor.

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* Hydrobromate of Hyoscine. Its Use in Forty-eight Cases of Insanity and Epilepsy. By Frederick Peterson, M. D., and Charles H. Langdon, M. D. Case XXVIII, *Medical Record*, Sept. 19, 1885.

Heimann is an enthusiast as regards the use of morphine in these cases. He says (*loc. cit.*): "It is the only remedy which can, for at least a short time, make the patient comfortable."

Recognizing the value of opiates for overcoming the feelings of discomfort and restlessness which serve to make the lives of patients with Parkinson's disease continually miserable, I have latterly employed codeine with considerable benefit, especially when combined in the form of a pill with hydrobromide of hyoscine (codeine, gr. ss.–ij; hyoscine hydrobromide, gr. $\frac{1}{100}$), and administered twice or thrice daily. While codeine possesses many of the useful attributes of morphine, it is less deleterious in its influence upon the system.

201 WEST FIFTY-FOURTH STREET.

A CASE OF UNILATERAL PARALYSIS OF THE ABDUCTORS OF THE LARYNX,

THE RESULT OF AN ATTACK OF BULBAR DISEASE WITH UNUSUAL SYMPTOMS, AND WHICH WAS APPARENTLY CAUSED BY SUPPURATIVE DISEASE OF THE ANTRUM.*

By F. H. BOSWORTH, M. D.

THE interesting series of experiments on the functions of the larynx made by Hooper (*Trans. of the Amer. Laryng. Assoc.*, 1885, p. 9; 1886, p. 22; 1887, p. 41; 1888, p. 163), F. Donaldson, Jr. (*Trans. of the Amer. Laryng. Assoc.*, 1886, p. 213; 1887, p. 80), Semon and Horsley (*British Med. Jour.*, 1886, August 28th and September 4th, pp. 405 and 445), Krause (*Arch. f. Anat. und Physiol., phys. Abtheil*, 1884), Onodi (*Ctrlbl. für d. med. Wissenschaft.*, 1889, vol. xxvii, pp. 258 and 289), and Simanowski (*Geschen. klin. Gaz.*, No. 26, 1887) have rendered the question of laryngeal paralyses one of no small interest. As contributing somewhat to our knowledge of the subject from a clinical point of view, I bring before you the following case:

J. W. M., a member of the judiciary in one of our Western States, consulted me on March 27, 1890, with the following history:

In August, 1889, he suffered with an ulcerated second molar tooth, which gave rise to an attack of facial neuralgia, involving the whole of the left side of the face. The tooth was extracted, with relief to the pain, but an offensive purulent discharge, which had set in from the left nasal passage, coincident with the attack of toothache, persisted. He felt and thought this was an accumulation in the antrum. This latter system has continued ever since—an ill-smelling, yellowish discharge, which passes into the fauces and is discharged through the nostril. When lying down, the flow of pus into the larynx is a source of especial annoyance. He is a man of large physique, and has always enjoyed perfect health.

On November 20th he retired in his usual health. He was awakened suddenly in the early morning hours by something happening which he could not describe. On attempting to rise in bed, he found that he fell over to the right side. There was considerable nausea, and, to allay this, he attempted to drink a little water, but this he found to be an absolute impossibility. He got out of bed with considerable difficulty and got down stairs, but he found himself walking with very great effort and unconsciously turning to the right. He was also very dizzy, and the nausea continued. On further questioning himself as to his symptoms, he found that he was partially paralyzed as to motion over the whole of the right side from the crown of the head to the soles of the feet. On the left side there was paralysis of sensation to this extent: that while the tactile sense was not destroyed, his appreciation of heat and cold was absolutely gone. There was also some slight dyspnœa, although his voice was unimpaired as far as he knew, except that the vocal tones were somewhat peculiar. This latter symptom, of course, was due to paralysis of the palate.

There was no facial paralysis as far as he knew—that is, the face was not drawn, yet it felt heavy and stiff over the right side. There was also some impairment of sight, in that, as he expressed it, the eyes did not focus well. He could neither sneeze nor cough, although he could clear his throat with some little difficulty. The tongue was protruded slightly to the right side. Articulation was not impaired. The sense of taste was notably impaired on the left side of the tongue and the whole of the fauces. As he expressed it, the loss of sensation of taste on the left side extended down to his stomach. He declined to consider himself a sick man and kept about the house, although it was no small effort to move. The power of deglutition was lost for two days, but he commenced to swallow on the third day. This, however, was accomplished but slowly for some weeks. The motor impairment gradually disappeared, and on the twelfth day he walked down the street, though still with some effort. According to his own story, the impairment of motion lasted only two months, although at the time of his visit to my office, four months after, I could detect still some evidence of motor weakness. While this feature of his paresis improved rapidly, the sensory paresis of the left side seemed to improve quite slowly, and at the end of four months there was still a notable failure to appreciate the sensations of heat and cold.

When I first saw this patient he consulted me on account of his antrum disease, and he seemed to think that all his other symptoms had completely disappeared, and really described them to me as a curious experience which had happened to him some months before. I found him to be a man in almost perfect health, in whom a close examination failed to reveal any departure from the normal condition, with the exception of the symptoms above noted of slight sensory paresis of the left side. He went through the ordinary muscular tests of spinal and bulbar disease without revealing any impairment of power. There were the characteristic symptoms of disease of the left antrum, and this was successfully operated upon by opening the antrum through the alveolus. A large amount of pus was discharged and a Bordenave tube inserted.

An examination of the larynx showed the right cord lying motionless in the median line—in other words, there was complete paralysis of abduction of the right vocal cord.

It would have been interesting to have noted in this case whether there was an anæsthetic condition of the mucous membrane of the larynx. This, however, was not elicited, owing to a somewhat irritable condition of the fauces.

The first question that arises here is as to the cause of the bulbar disease and its possible connection with the suppurative disease of the antrum. This man, as I have said, was in the enjoyment of perfect health, and there was no obvious physical trouble which should have led to the development of bulbar disease other than the suppurating process in the antrum.

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* Read before the American Laryngological Association at its twelfth annual congress.

Dr. M. A. Starr, who saw this case with me, was disposed to agree with me in the idea that there was a thrombosis of one of the small arteries of the medulla, and that this thrombosis led to some meningeal disturbance extending to the cerebellum, which would account for the loss of co-ordination, with the motor and sensory impairment which characterized the early days of his attack.

The rapid disappearance of symptoms can be accounted for by the early re-establishment of the circulation. I think, without question, this patient had an attack of bulbar disease, in which the symptoms disappeared with unusual rapidity, and at the end of four months the only condition which remained was right abductor paralysis. This seems to have become permanent. The case, therefore, is interesting as one of bulbar disease, due probably to a suppurating process in the antrum of Highmore. It is further interesting as lending weight to the proclivity theory of Semon (*Arch. of Laryngology*, vol. ii, p. 197), and yet it seems to me quite clear that in this case the laryngeal paralysis was the result of a disease of the nerve centers alone. The ganglionic center which presides over the respiratory movements of one side of the larynx lay in the area of distribution of the artery which was occluded. The motor center of the larynx in the medulla has not as yet been practically isolated. The diseased process in my patient, however, seems to have isolated the ganglion which presides over the respiratory function of one side of the larynx whose fibers pass through the recurrent laryngeal nerve; and yet it seems to me there is no evidence whatever that any other fibers of the recurrent laryngeal nerve were in any way disturbed.

Why, therefore, does the paralysis of abduction become permanent, while this patient recovers both motion and sensation of the other parts involved? There are but two answers to this: either the ganglion presiding over the respiratory function of one side of the larynx is permanently destroyed, or there is an essential proclivity on the part of the abductor muscles to become the seat of paralysis. This undoubtedly exists, and is shown clinically by the fact that when their function is abolished they become the seat of a rapid degenerative process, under which they lose their power of responding to the stimulus of motor innervation.

This latter view, as before stated, seems to be largely established, not only by clinical observation, but is prominently the teaching of the very elaborate series of physiological experiments alluded to at the commencement of this paper.

As I understand Semon's article on the proclivity theory, this condition lies in the fibers of the recurrent laryngeal nerves rather than in the muscles. It certainly seems to me that the weight of evidence is in favor of the view that this proclivity manifests itself in the muscular fibers of the posticus muscle rather than in the nerve. The point is certainly an interesting one, but is scarcely to be entered upon at length here. Another interesting point in this connection is as regarding the question of intrinsic and extrinsic paralysis. I have reported here a case of paralysis of undoubted central origin.

About the time that this patient came under observation another gentleman called on me with the following history:

J. W. C., aged fifty-six, broker. He was of fine physique and apparently in the enjoyment of perfect health, and yet was one who was always exceedingly nervous and sensitive about his own physical health. About six weeks before he had consulted a physician, who, as I understood, made a diagnosis of recurrent laryngeal paralysis due to aneurysm. This diagnosis so completely unnerved him that he was practically confined to his house in a state of nervous prostration for from four to five weeks. As soon as he was able he came to New York. On examination, I found his left vocal cord moving in about one half its normal excursion; in phonation it was approximated nearly to the median line, while in inspiration it was abducted to perhaps a little more than one half the normal extent. Its movement was somewhat sluggish, but there was unquestionable movement both in the cord and in the arytenoid cartilage.

I made an examination and found nothing abnormal in the thorax. This patient, at my suggestion, consulted Dr. Loomis, who pronounced him absolutely sound, as to both heart and lungs. My own diagnosis already made was that of partial ankylosis of the crico-arytænoid joint, due probably to the rheumatic habit. The diagnosis was given with absolute positiveness and the patient returned to his home reassured, and, as far as I know, has had no return of his neurasthenic symptoms. The local symptoms in the fauces had never been other than of a mild form of naso-pharyngeal catarrh.

Here was a case pronouced one of paralysis by a very competent observer, and yet, in my opinion, was one which should not be regarded as either intrinsic, myopathic, or any other form of paralysis.

I make this assertion deferentially and not polemically, but mainly on the ground that it seems to me our nomenclature will be very greatly cleared up by relegating a very large proportion of our cases of so-called intrinsic paralysis to a totally different classification, and confining the word "paralysis" to those cases which are due to a diseased condition either of the nerve trunk or of the ganglionic centers.

Coming back now to the question of central paralyses, I find a number of cases of recurrent laryngeal paralysis, involving one or both sides, reported by the following observers as due to bulbar disease: In a case reported by Hughlings Jackson (*Lond. Hosp. Reports*, 1864, vol. i, p. 361) there was paralysis of the right recurrent laryngeal. In a second case by the same author (*loc. cit.*, p. 368) there was paralysis of both cords. In a third case by the same observer (*Lond. Hosp. Reports*, 1867, vol. iv, p. 314) there was paralysis of the left cord. In a fourth case by this writer (*op. cit.*, p. 318) there was paralysis of the right recurrent laryngeal. In a case reported by Proust, cited by Hallopeau (*Des paralyses bulbaires*, Paris, 1875, history 23), there was paralysis of both cords. In a case reported by Senator (*Arch. f. Psychiatrie*, vol. xi) there was paralysis of both cords. Eisenlohr (*Deut. med. Woch.*, 1886, p. 363, also *Arch. f. Psych.*, 1887 and 1888, vol. xix, p. 314) reports three cases, in two of which there was recurrent paralysis on both sides, while in the third there was recurrent paralysis of the left side. Sokaloff also (*Deut. Arch. für klin. Med.*, vol. xli, p. 458) reports a case of left recurrent paralysis.

All these cases resulted in a fatal termination, and post-mortem examinations were made in all, with the exception of Hughlings Jackson's first two cases. The lesion in every case was found to be extensive destruction of the medulla, involving the pyramids, olivary bodies, restiform bodies, floor of the fourth ventricle, etc. In other words, we find here a series of cases in which the bulbar disease was of such an extensive character as to produce a fatal termination; and, furthermore, that where the local disease was so extensive it resulted in the completest possible paralysis of the muscles of the larynx—viz., recurrent laryngeal paralysis of one or both sides. In the third of Eisenlohr's cases, above alluded to, the post-mortem examination showed the left recurrent nerve involved in a thickened pleura, which might possibly have been considered as causing the laryngeal paralysis; yet there was also an extensive degeneration of the medulla, and, furthermore, the laryngeal symptoms antedated the pulmonary disease by about two years.

In addition to the foregoing, Oppenheim (*Berl. klin. Woch.*, 1886, No. 40, p. 675) and Kehler (*Zeit. f. Heilk.*, 1881, p. 440) report cases of recurrent laryngeal paralysis, the former involving the right cord and the latter the left, as occurring in connection with locomotor ataxia. Wegner (*Annual of the Universal Med. Sciences*, vol. i, p. 89) takes the ground that the laryngeal paralysis in cases of tabes usually takes the form of paralysis of the abductor muscles, citing two of his own, and making a compilation of a number of other instances. This certainly is not the rule, in view of the cases just instanced, although, in addition to Wegner's, we find Krause (*Berl. klin. Woch.*, 1886, No. 20, p. 651), Ross (*Brain*, London, 1888), and Saundby (*Birming. Med. Review*, December, 1886) reporting cases of tabes in which there was bilateral abductor paralysis; while, in a case reported by Semon (*loc. cit.*) of double abductor paralysis, the patient subsequently developed tabes. In a case of tabes reported by myself (Laryngeal and Pharyngeal Paralyses, *Journal of Nervous and Mental Diseases*, 1889, Case I) there was bilateral paralysis of the laryngeal abductors. Hubbard (*Toledo Med. and Surg. Reporter*, 1889, vol. ii, p. 576) reports a case of tabes in which there was recurrent laryngeal paralysis of the left side.

Of course there is no special clinical deduction from the laryngeal paralysis in locomotor ataxia other than that the extent and direction which the sclerosis takes dominate the form and extent of laryngeal paralysis.

In addition to the foregoing, I find cases of double abductor paralysis reported by Ollivier d'Angers, cited by Gottstein (*Die Krank. des Kehlkopfes*, 1888, p. 309), Krause (*Neurol. Centralblatt*, 1885, p. 543), and Penzoldt (von Ziemssen's *Cyclop.*, vol. vii, p. 962), in all of which the autopsy showed extensive lesion of the medulla, while in a case reported by Smith (*Brit. Med. Jour.*, July 13, 1878) there was evident central lesion, although no autopsy was made.

This would seem rather a small proportion of cases of bilateral abductor paralysis in which the central lesion was established, and yet it must be borne in mind that a very large proportion of cases of this disease have clearly been traced to local morbid processes, while in others the mere insertion of a tube has so far prolonged life that the origin of the disease has remained obscure.

As regards unilateral paralysis of the abductor muscle, the number of cases reported in literature is not large; moreover, this affection gives rise to comparatively trivial symptoms, and undoubtedly in many cases escapes observation. Of this form of unilateral paralysis of abduction in the larynx cases have been reported by Gerhardt, cited by Gottstein (*op. cit.*, p. 310), McBride, cited by Gottstein (p. 311), Nothnagel (*Wien. med. Blätter*, 1884, No. 9), Martius (*Charité Annalen*, 1889, vol. xiv, p. 315), and Delavan (*Med. Record*, Feb. 14, 1885, p. 178). In all of these cases an autopsy revealed lesion of the medulla or base of the brain. In Delavan's case it should be stated that the form of paralysis is reported as complete paralysis, the cord lying in the median line, which seems to leave it somewhat uncertain whether this is abductor or recurrent laryngeal paralysis. In a case reported by Wright (*N. Y. Med. Jour.*, 1889, vol. l, p. 345) the observer considered the disease of central origin, although no autopsy was made.

From this category there is omitted quite a number of cases in which the disease is attributed to local causes.

The object of my paper is fulfilled, therefore, in the report of the case which is the text of my remarks, and the further suggestion that we have completed our duty in no case of laryngeal paralysis unless we have either thoroughly eliminated or established the question of a central lesion as the source of the morbid condition. In other words, I am disposed to think that a central lesion is responsible for a genuine paralysis of the vocal cords in a somewhat larger proportion of cases than is usually believed.

26 West Forty-sixth Street.

A MODIFIED ALEXANDER-ADAMS OPERATION.*

By GEORGE M. EDEBOHLS, A. M., M. D.,
GYNÆCOLOGIST TO ST. FRANCIS HOSPITAL, NEW YORK.

The operation for shortening the round ligaments has established itself in the favor of comparatively few gynæcologists. This I believe to be due in very great part to the difficult and unsatisfactory technique of the operation as usually practiced, leading to disappointment and mortification and rendering it unpopular with operators.

During my earlier experience with the operation, embracing five cases, I shared the general unfavorable impressions, and was on the point of practically abandoning the operation in favor of ventro-fixation of the uterus in all cases of retroflexion and version where the symptoms and the failure of milder methods to relieve called for operative interference.

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* Read before the Gynæcological Section of the Tenth International Medical Congress.

In a paper entitled Aus der gynäkologischen Abtheilung des St. Francis Hospitals in New York: Die Laparotomien des Jahres 1889,* I reported four hysterorrhaphies, of which three were performed for retroversion, one for retroflexion of the uterus. All of the patients were seen between six and twelve months after operation, and remained completely relieved of their former symptoms. In all, the uterus remained in anteversion. I quote from the paper:

> Notwithstanding these favorable results, I shall in the future perform laparotomy for ventro-fixation of the uterus only in case the latter be adherent, or when other intra-abdominal conditions calling for operation complicate retroversion of the non-adherent uterus. The hysterorrhaphies just described were performed at a period when I was dissatisfied with the Alexander-Adams operation for shortening the round ligaments. This dissatisfaction was grounded chiefly on the difficulty of really shortening the ligaments, when found, in their intra-abdominal course. Since December, 1889, I have performed the operation for shortening the round ligaments eight (at present thirteen) times after a modification of my own, which I intend shortly to publish. In every case I easily succeeded in shortening the ligaments from three to four inches in their intra-abdominal course. The immediate results have been perfectly satisfactory; the final results remain to be tested by time. In case the good results prove permanent, I shall probably never again perform laparotomy for uncomplicated retroversion of the uterus, but shall, in such cases, resort to shortening of the round ligaments, or perhaps to a modification of the operation of vaginal ligature after Schuecking.

This quotation defines my present attitude, which I have found no occasion to change since writing the foregoing. In the latter part of 1889, as a result of some thought relating to the difficulties to be overcome and of study upon the cadaver, I elaborated for myself a modification of the technique of Alexander's operation. This I have since practiced in thirteen cases—seven times for retroversion or retroflexion, and six times for prolapse. These cases I have herewith tabulated, as likewise, for purposes of comparison, five cases in which I operated after the usual method. These eighteen cases include my entire experience in the operation of shortening the round ligaments. In all of the thirteen cases an immediate anatomical success was achieved. The retroverted uterus was brought into and held in normal anteversion; the prolapsed uterus, with the added aid of plastic operations performed at the same sitting, was sustained at its proper level in the pelvis.

About the permanent results it is as yet too early to speak. I have seen all of the patients at greater or less intervals since the operation, and thus far know of no case where the uterus has again become prolapsed or retroverted. Up to the time of my latest knowledge, an anatomical and a therapeutical success has been the result in every case. I shall on a future occasion report the final results as far as I may be able to ascertain them. The present paper is concerned chiefly with the technique of the operation which I shall now attempt to describe.

On the day preceding operation the patient receives a purgative, a pubic and vulvar shave, and a full bath. After being anæsthetized and placed upon the table, the site of operation and the surrounding parts are thoroughly cleansed with soap or mollin and water, irrigated with bichloride solution (1 to 3,000), dried, washed with ether, and again irrigated with the sublimate solution.

The spine of the pubes is located by the index finger. The incision begins just above it, over the site of the external abdominal ring, extending upward and outward, parallel to Poupart's ligament, for two inches and a half to three inches, according to the amount of adipose tissue. The adipose tissue is divided by clean cuts and without the aid of retractors until the glistening aponeurosis of the external oblique is laid bare. In the use of retractors there is danger of drawing too much upon one side or other of the wound and of dislocating its center, so that after cutting through the adipose tissue we may find ourselves upon the muscular aponeurosis at quite a distance from the external ring.

If there is much subcutaneous fat, it is advisable, while cutting through it, occasionally to feel for the spine of the pubes, so that the inner and lower end of the incision may bear directly down upon it. After exposing the fibers of the external oblique, the external abdominal ring, its pillars, and the intercolumnar fibers are readily distinguished.

Up to this stage the operation is identical with the one usually practiced; here the divergence begins. A grooved director is inserted into the external ring, just beneath its outer and upper margin. It is advanced along the inguinal canal, hugging closely its anterior wall, to a point opposite the internal ring. The anterior wall of the canal, along its whole length, is now divided on the director, observing care to cut as nearly as possible in the exact direction of the course of the aponeurotic fibers. The internal ring is gently felt for but not dilated, and sometimes the ligament can be distinctly felt emerging therefrom. Generally, however, it is not easy to be sure of feeling the ligament. A blunt hook is next passed down to the ring and its point made to sweep across the bottom of the wound from above and within along the posterior and inferior walls of the canal. The ligament is found in the inferior and outer part of the canal nestling close behind Poupart's ligament. It is brought out by the hook and liberated from its cellular attachments. The fibers of insertion into the canal are likewise separated from the walls of the latter. It will be found that the ligament, at its emergence from the internal ring, constitutes a well-marked, oval, strong band of fibers; that it immediately begins to spread out and attenuates rapidly as it proceeds inward and downward in the direction of the external ring.

The only difficulty in performing the operation is likely to be encountered here. If the ligament is picked up in the canal at a distance from the internal ring, it fails to present its peculiar ligamentous sheen, owing to its separation into fibers for insertion into the walls of the canal. The operator has the ligament upon his hook, but fails to recognize it. From its resemblance to muscular fibers he is liable to mistake it for the latter. If the seized bundle, however, is made tense by traction, it can be traced by the finger directly to the internal ring. Recollecting that the canal contains nothing but the ligament and the accompanying small ilio-inguinal nerve, the operator draws confidently upon the seized tissues and finds the round ligament, *in propria forma*, emerging with its peritoneal investment.

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* *New Yorker medizinische Monatsschrift*, May, 1890.

The broad ligament covering the round ligament is drawn out in the form of an inverted funnel. With one hand pulling on the round ligament in a direction at right angles to the plane of the aperture of the ring, two fingers of the other hand strip or peel back the peritonæum of the broad ligament from the round ligament, until three to four inches of the latter have been pulled out and bared. In doing this the reflection of the peritonæum should be distinctly kept in view. It is easily recognized as a white line running transversely across the round ligament, anteriorly and posteriorly, and all but meeting at the sides.

In three of the twenty-six ligaments thus treated, I have torn and opened the peritonæum in stripping it back. The resultant little holes gave no trouble. By spending a little time over the work, and stripping the peritonæum back gently and slowly, this accident can be avoided.

The wound is now protected with bichloride gauze and the operation performed in the same manner on the opposite side. The next step in the operation consists in stitching the drawn-out parts of the shortened round ligaments securely in the inguinal canal. The ligament is pulled out as far as it will go. I have never failed to draw it out three inches, nor ever secured a shortening of more than four inches.

One who has done the operation in the usual manner, drawing upon the ligament at the external ring with fear and trembling lest it at any moment break, will be agreeably surprised at the firm traction which can be exerted upon it at the internal ring without the sensation of impending stretching or rupture. Of the twenty-six ligaments thus drawn out, not one has ruptured, although in several instances they were so slender in structure that from my previous experience I felt certain the risk of tearing at the external ring would have been considerable.

The drawn-out ligament, still attached at the pubes, is now handed to the assistant, who, by means of the blunt hook, exerts sufficient traction to hold it taut.

This traction is made in the direction of the opened canal; so that a portion of the ligament which, previous to operation, was situated within the abdominal cavity, now occupies the space along the course of the canal formerly filled by the extra-abdominal portion of the ligament. In this situation it is secured by sutures of silk-worm gut passed in the following manner: The first suture traverses the wound at the level of the internal ring. It is introduced through one lip of the wound, embracing skin, superficial fascia, and the aponeurosis of the external oblique, into the inguinal canal. Here the taut ligament, as it emerges at the internal ring, is pierced transversely by the needle, which then traverses the other lip of the wound, penetrating in succession the cut fascia of the external oblique, the subcutaneous fat, and the skin.

Although very partial to the Hagedorn needle in most of my operative work, I here prefer the ordinary surgical needle curved on the flat. The Hagedorn, in traversing the ligament, cuts the longitudinal fibers, which the ordinary needle merely crowds between and separates.

Three to five sutures are passed in a similar manner through all the tissues on either side of the wound, into and across the canal, in their course through the latter piercing the ligament. These sutures, when tied upon the skin, close the opening in the anterior wall of the canal by bringing into juxtaposition the divided edges of the fibrous aponeurosis of the external oblique, as well as of the more superficial structures, while at the same time they moor the shortened ligaments safely inside of the canal, where they properly belong.

The operation is completed by cutting away the excess of ligament projecting beyond the lower angle of the wound. Drainage is effected by three or four strands of silk-worm gut running along the bottom of the wound along its entire course and emerging at either end. I take care that these silk-worm gut drains reach into the inguinal canal at one point by passing them beneath the deepest portion of one of the wound sutures.

I consider this matter of drainage very important, as considerable serum is apt to be effused. If no vent be given to it externally, it may burrow along the tissue planes in various directions and even suppurate. Indeed, this happened in two among my first cases in which I endeavored to dispense altogether with drainage in any form and closed the wound tightly. Pus formed and burrowed in various directions between the subcutaneous fat and the fascia of the external oblique, and even through the internal ring into the subperitoneal areolar tissue, necessitating free incisions and secondary drainage of these parts. It is but fair to state that both of these cases were operated upon during the height of the epidemic of "la grippe," and both were attacked by the disease after operation. The convalescence in both cases was tedious, though the anatomical success of the operation was fortunately not impaired.

Although in two of the first six cases I obtained primary union without the employment of drainage, the experience in the other four led me to adopt drainage systematically in all of my subsequent cases. An attempt was first made with rubber tubing, then with catgut, and finally, and with the most completely satisfactory results, with silk-worm gut. The smooth surfaces of the latter act as excellent conveyers outward of the pent-up fluids. On their withdrawal the tissues come together, closing and immediately obliterating their tracks. The wounds are dressed with pads of bichloride gauze laid across the lower part of the abdomen and kept in place by a double spica bandage. This latter is securely pinned, and, unless wound complications occur, the dressing is allowed to remain undisturbed for nine to twelve days. At the end of this time the sutures and the silk-worm gut drains are removed and the wound is redressed.

As to support of the uterus after operation, I have designedly avoided it, as far as possible. One patient with retroflexion wore a pessary for a month after operation. In the other cases of retroversion the uterus was sustained for two or three days by a tampon of iodoform gauze placed in the vagina on the completion of operation. Whenever a lastic operation upon the vagina or perinæum was simulaneously performed—*i. e.*, in all cases of prolapse and in ome of version—absolutely no support of the uterus after peration was practiced. The round ligaments were thus everely tested as to the security of their new anchorages nd as to their ability to sustain the uterus in normal posiion. They successfully stood the test in every case.

I believe, however, with Alexander, that in every case here the operation is performed for retroflexion a glass ntra-uterine stem should be worn during convalescence, in e first place to counteract the recoil influence of the flexon upon the round ligaments, and secondly to establish onditions favorable to the cure of the flexion. The only ne of my cases that has given me any anxiety in regard to he anatomical success was one of retroflexion in which I id not insert a stem. For three or four months after opration the anatomical condition was one of retroflexion f the anteverted uterus. When last seen, the retroflexion as growing less, while the anteversion was securely mainained.

No one can seriously dispute the fact that shortening he round ligaments in their intra-abdominal course really hortens the distance between the fundus uteri and the abominal walls, and thus holds the uterus in the position of ormal anteversion and of suspension at the proper height n the pelvis. The objections to the operation are really ased, not on theoretical, but on technical grounds—*i. e.*, he technique has heretofore not been satisfactory.

The principal difficulties in the performance of Alexaner's operation, which have stood in the way of its popurity, are experienced, first, in finding the round ligament, nd, secondly, in drawing it out when found. The following uotation from Mundé * will serve to emphasize the first ifficulty :

> My great objection to the operation when I first attempted was the doubt whether the ligaments could always be found. heard this doubt expressed by experienced gynæcological sureons who had tried and succeeded, and again tried and failed; nd I myself had passed through this experience, being easily uccessful in my first, failing on one side in my second, and on oth sides in my third case. I may say that it was with fear nd trembling that I approached each Alexander's operation, ever feeling sure that I would not disgrace myself by failing o find the ligaments, etc.

This difficulty of finding the ligament may also serve o explain the frequency with which the ligaments have een reported absent or wanting. In my eighteen operaions I have found thirty-six ligaments.

My own difficulties have been experienced in drawing ut the ligament when found, or in causing it to run satisactorily.

Of ten ligaments in five operations performed after the sual method, four ran out satisfactorily to the extent of wo inches or more; three ran out partially; in one instance desisted from further traction, warned by the sense of imending rupture; and twice the ligament tore.

A brief consideration of the anatomy of the ligament will, I believe, serve to explain these results. Immediately after passing out of the abdomen, through the internal ring, as a compact, rounded cord, the fibers of the ligament separate, the greater number diverging to be inserted into the inner surface of the walls of the inguinal canal throughout its entire length. Comparatively few of the fibers pass out through the external ring to be inserted into the structures adjacent to the pillars of the latter.

In operating after the usual manner, it is this smaller bundle of the fibers of the ligament which is grasped and pulled upon in the attempt to draw the ligament out through the external ring. This minority of the fibers of the ligament is frequently not strong enough to stand the traction necessary to draw out the ligament from within the abdomen, especially as the firm attachment of the larger number of the fibers within the inguinal canal adds to the difficulty.

Another element to be taken into consideration in this connection is the direction of traction, which is manifestly most unfavorable. The abdominal part of the ligament runs outward to the internal ring; the part within the inguinal canal runs inward and forward. The two form a very acute angle with each other at the internal ring. In drawing upon its outer end, the ligament must be drawn over the sharp margin of the inner pillar of the internal ring at a very great mechanical disadvantage.

All these disadvantages are, to a great extent, overcome in my method of performing the operation. By laying open the inguinal canal, the round ligament is readily found and picked up. By picking it up as it emerges from the internal ring, the entire ligament is secured before any of its fibers are given off. This gives us in all instances a ligament sufficiently strong to stand the traction necessary to draw out efficiently its intra-abdominal portion. This more especially since we are at liberty, by reason of free access to the internal ring, to draw in the direction of the intra-abdominal portion of the ligament.

Another great advantage presented is the certainty of really shortening that portion of the ligament (the intra-abdominal), to shorten which is the prime object of the operation. As already stated above, upon traction being made upon the round ligament, the peritoneal folds of the broad ligament embracing it are drawn out through the internal ring in the shape of an inverted funnel. Under guidance of the eye the broad ligaments are gently stripped back from the round ligament, until the intra-abdominal portion of the latter is seen to have been liberated, for three or four inches of its length, from the embrace of the former. This denuded intra-abdominal portion of the ligament is converted into the extra-abdominal portion by being sutured into the inguinal canal.

The distinctive features of the method of operation advocated in this paper, briefly recapitulated, are as follows :

1. The inguinal canal is laid open along its entire length.

2. The round ligament is sought for and picked up at its point of emergence from the internal ring.

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* The Value of Alexander's Operation for Shortening the Round igaments. *Am. Jour. of Obst.*, November, 1888, p. 1123

3. The ligament is drawn out approximately in the direction of its intra-abdominal portion.

4. The ligament is drawn out from its peritoneal investment by aid of the sense of sight. The shortening of its intra-abdominal portion is thus rendered a matter of absolute certainty.

5. The method of suture, which, while it closes the canal, at the same time secures the ligament within it.

6. The method of drainage by silk-worm gut.

Many and various are the modifications of Alexander's operation which have from time to time been proposed by different surgeons and gynæcologists. I am not aware, however, that the combination of procedures above described has ever been advocated. The nearest approach to it which I have found recorded is in a paper, read before the Gynæcological Society of Chicago, by Dr. Henry P. Newman, entitled Alexander's Operation, with Report of Cases,* to which I must refer for the details of Dr. Newman's technique.

An objection that may be urged against the plan of operation herewith presented, as compared with the original method, is the apparently greater probability of a resultant hernia. While I do not believe that the operation, carefully performed after either method, predisposes to hernia, I think a little reflection will show that the liability to this accident is really diminished in my modification.

In describing the technique of Alexander's operation, Mundé † says: "The operator need not be afraid to pass his finger or the scalpel handle along the ligament into the inguinal canal and break up these adhesions." Add to this dilatation of the canal the subsequent drawing down into it of the peritoneal pouch which follows the round ligament, and we certainly have established conditions not unfavorable to the formation of hernia. These conditions were clearly in the mind of Dr. W. L. Reid when he wrote: ‡ "I also believe it wise to pass one or two deep sutures across the inguinal canal in order to occlude the pouch of peritonæum which is dragged down into it."

In my method the peritonæum is well stripped back from the round ligament and returned fully within the abdomen. The round ligament, denuded of its peritoneal coat, is in a condition most favorable to firm union with the internal wall of the canal, likewise denuded by the detachment of the fibers of insertion of the round ligament. The method of suture insures retention of the round ligament within the inguinal canal along its whole length. The walls of the canal are adjusted snugly around the contained ligament, and the lumen of the canal is now probably smaller than before operation.

As already stated, the object of this paper is to call attention to a method of shortening the round ligaments which I have thus far found easy of performance, and delightfully certain in its immediate anatomical results. That it constitutes a somewhat more serious procedure than the original operation I am free to admit. This is, however, more than counterbalanced by the greatly increased, I might almost say absolute, certainty of finding the ligaments, and the positiveness with which they can be really shortened when found. The hesitancy and lack of confidence with which I formerly approached the operation have given way to a feeling of assurance based upon the certainty of accomplishing that for which the operation is undertaken.

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* *American Journal of Obstetrics*, December, 1888, p. 1291.

† *Ibid.*, November, 1888, p. 1127.

‡ *Trans. of the Ninth Internat. Med. Congress*, vol. ii, p. 763.

A CASE OF PRIMARY TUBERCULOSIS OF THE PHARYNX TERMINATING IN CURE.*

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THE following history of a case of tubercular pharyngitis is presented to this learned assembly for two reasons. First, the successful treatment of cases of a similar nature is mainly due to the labors of two men, both of whom are members of this section, viz.: the introduction of lactic acid in the treatment of laryngeal phthisis by Krause, and its surgical treatment by Heryng. Secondly, the last examination, made more than two years after the commencement of the disease, showed that the patient remained perfectly well and that the cure had been complete:

The patient when presenting herself for treatment, May 14, 1888, was thirty-eight years of age, well built, weight one hundred and eighty pounds, no hereditary tendency. She called on account of pain in deglutition on the left side during the last two weeks. Inspection revealed an ulceration of the size of a pea, covered with grayish-white secretion, situated at the base of the tongue on the left side. The examination of the lungs at that time and at all subsequent periods showed them to be in perfectly healthy condition. Syphilis had to be excluded, as the patient had never had any symptoms of the disease; she was happily married and had given birth to six children, two of whom died from croup, and four were living and healthy.

The suspicious aspect of the ulceration tempted me to curette it thoroughly with the sharp spoon at her second visit. The specimens examined under the microscope by two independent observers contained numerous tubercle bacilli. The same condition was found one month later, when a piece of tissue removed from the edge of an ulceration was subjected to the microscopic test. The treatment during the entire course of the disease was confined to curettement of the ulcers and energetic application of lactic acid and at times use of the galvano-cautery. I kept purposely aloof from all alterative remedies in order not to obscure the case in any manner, the nutrition only being supported by tonics, good food, wine, etc.

The main features in the history of the case are the following, minor details being omitted: The primary ulceration improved in the beginning, but the latter part of June the destructive process extended along the base of the tongue toward the right side. Energetic treatment also arrested it in this locality, but in the beginning of August a deep ulcer was discovered in the posterior portion of the left tonsil. The ulceration was bidden by a flap of healthy tissue, and could only be seen by pushing the latter aside with a suitable forceps. A few days later the lingual surface of the epiglottis became intensely hyperæmic and uniformly thickened, resembling œdema. But on application of a probe no impression was produced, showing that a true infiltration existed. This condition remained stationary during the following month, but when returning from my summer vacation I found that the patient had lost ten pounds in weight and suffered from severe dysphagia. In trying to swallow liquids, the greater part passed through the nose. The lungs were again found to be intact. Scarifications of the infiltrated epiglottis were next attempted, but without giving relief. By the end of September, after a most thorough cleansing of the diseased parts, which I always found to be covered with copious and tenacious secretion, the whole infiltration of the lingual surface of the epiglottis proved to have melted away, and a large ulceration was visible instead, leaving only a small area of healthy tissue on the free border of the cartilage. On October 1st, ulceration set in on the left palatine pillar; on the 15th of the same month the remaining portion of the epiglottis was also transformed into an ulcer, and on the 20th the left arytæno-epiglottic ligament became involved. Although I had up to this time always entertained strong hopes of being able to combat the disease successfully, the condition of the patient was now certainly very discouraging, and I almost despaired of her ultimate recovery. Feeling that the last measures were justified, I scraped away all the diseased tissue most energetically without regard to the subsequent hæmorrhage and rubbed in undiluted lactic acid. The patient felt relief from pain the following day, and three days later cicatricial tissue appeared everywhere. Again three days later, October 29th, the patient felt perfectly well, and on the 31st the last eschar disappeared. The patient now weighed but one hundred and sixty-seven pounds.

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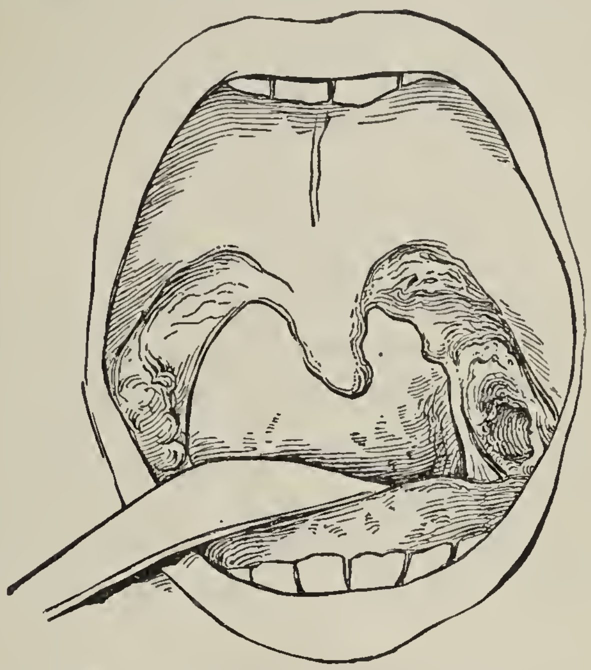
* Read before the Laryngological Section of the Tenth International Medical Congress, Berlin, August, 1890.

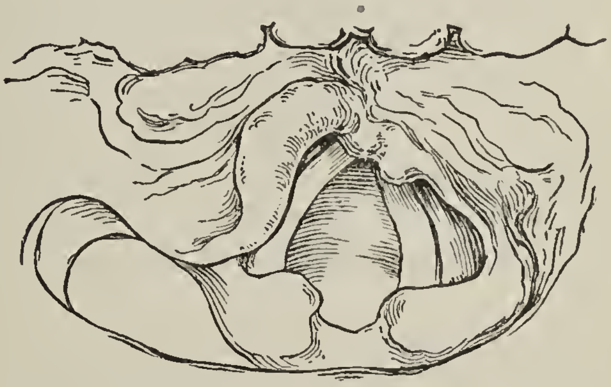
During the last week of November (1888) the patient was shown at a meeting of the laryngological section of the New York Academy of Medicine and examined by its members. They all confirmed the devastation made by the ulcerative process and the subsequent cicatrization. Ulceration could nowhere be detected at that time.

In regard to the treatment here pursued and its ultimate good result, it must be conceded that it was only possible owing to the great endurance and will-power shown by the patient throughout the whole time. Although the clearing of the ulceration was made with cocaine spray, all other proceedings only after application of the strongest solutions, necessarily the measures adopted and their after-effect were often very painful. Nevertheless, they were borne by the patient with the greatest patience and without the slightest objection. Another point which appeared to be of importance in the treatment deserves mention. It has already been observed by other writers that rubbing with the cotton-carrier over suspicious places aids in distinguishing between ulceration and cicatrization. It sometimes happens that a slight hæmorrhage occurs when we rub over apparent cicatricial tissue with a cotton-carrier, and that after a thorough cleansing an ulcer is discovered. If, however, after repeated rubbing, no change of suspicious places took place, I felt justified in considering them healed.

The further progress of the case was much simpler. In the beginning of December there appeared two discolored, whitish spots, corresponding to the posterior insertion of the ventricular bands, which remained visible during two weeks. Six weeks later the same observation was made at both processus vocales. Although first uncertain as to their nature, I had to consider them as the result of local anæmia, because the application of spray and cotton carrier proved them to be neither deposits of mucus nor ulcerations. A true ulcer formed in the latter part of December in the midst of the dense, hyperæmic left anterior palatine pillar. When treated with the sharp spoon, it proved to be of considerable depth. Its upper edge was cut away with a pair of scissors, and lactic acid was rubbed in. In the beginning of January, 1889, it became necessary to scoop out the freshly ulcerated left tonsil, and, two weeks later, a lobulated, suspicious-looking mass of the tonsil was removed with my irido-platinum wire. These two ulcers of the pillar and tonsil were the last ones to appear, and later on no more ulceration took place.



The two drawings of the pharynx and larynx, which I beg to present to the Section, date from this time (spring, 1889). The loss of substance at the left tonsil and the soft palate in one picture and at the epiglottis in the other are plainly visible and require no further explanation. It is only proper to state here that already at that time the cicatricial tissue had to a great extent lost its irregular and contracted appearance, whereas previously the uvula was still more deviated to the left and the zigzag condition of the pillar considerably more developed.



In March, 1889, there appeared, as the last intercurrent affection, a tumefaction of the left sterno-clavicular articulation, which yielded to two months' treatment with simple remedies. In the beginning of this year the patient became pregnant, and was delivered of a healthy boy after my return from Europe in the fall.

I saw the patient and her well-developed, healthy child the last time on May 28, 1890. After the last two ulcerations (January, 1889) had healed, nothing abnormal could be detected in the patient's pharynx or larynx, her weight had increased to two hundred and four pounds (twenty-four pounds more than at the beginning of the treatment), and she felt well in every respect.

I expressed it as my opinion, when I showed the patient before the New York Academy and also in the introductory remarks to this paper, that I considered the successful result obtained in this case entirely due to the application of lactic acid and the surgical treatment, in conjunction with the galvano-cautery. It is my firm belief that, with the necessary perseverance on the part of the physician and the corresponding energy on the part of the patient, such cases will not remain isolated in the future, and thus the statement made by a well-known author only a few years ago—"It is beyond doubt that up to this time no actually cured case of pharyngeal tuberculosis has been reported"—can not be considered an axiom any longer.

THE TREATMENT OF PERSISTENT ABDUCTION OF THE FOOT,

COMMONLY KNOWN AS CHRONIC SPRAIN OF THE ANKLE.*

By ROYAL WHITMAN, M. D., M. R. C. S.

The successful treatment of any chronic affection demands a personal, persistent attention to details on the part of the surgeon. This is particularly true of the treatment of what are known as minor injuries, and therefore neglected.

One of this class, to which I propose to call your attention, is commonly known as chronic sprain of the ankle, an affection which may entail years of discomfort and disability, with permanent impairment of the functions of the foot.

The usual history of such cases is as follows: Long-continued weakness and discomfort, following an injury to the ankle, treated by various physicians with liniments, blisters, and bandages until the discouraged patient is told that nothing more can be done, but that his symptoms "will wear away in time." A year or two later he presents himself, usually for the purpose of procuring a brace, or for some peculiar shoe which he thinks may be of service to him.

He complains principally of weakness, stiffness, and insecurity, of fatigue and pain in the foot and ankle on any overexertion. He walks with a somewhat awkward gait, the foot everted to avoid flexion at the ankle, with a very noticeable limp when fatigued; in fact, he walks as little as possible. On examination, one finds that the foot is abducted—that is, turned outward in its relation to the leg—that forced adduction and extension are resisted and are very painful to the patient. There may be some swelling, often of the dorsum of the foot, or in front and below the external malleolus. In other cases the ankle appears perfectly normal. The arch is not markedly diminished, but there is a prominence on the inner aspect of the foot, at the astragalo-scaphoid joint, caused by its abducted position. Thus, although in a well-marked case all the movements at the ankle and at the medio-tarsal joint are somewhat restricted, those of adduction and extension are almost lost, there being a spasmodic contraction of the peroneii and extensor longus digitorum, with shortening of ligaments and fascia on the outer side, varying according to the time the foot has been held in its improper position. The amount of abduction varies. In many cases there is simply a slight limitation of adduction and almost no spasm of muscles. In others, usually in young subjects, there is a tonic contraction of the abductors, raising the outer border of the foot and throwing it into a position of marked deformity, presenting the appearances of what is sometimes called spasmodic valgus.

In making the diagnosis of this condition, it is important, as a preliminary measure, to test the movements of the foot—(1) in relation to its fellow; (2) to the normal range of motion. This varies considerably with the age or personal peculiarity of the patient, but, according to a number of measurements, the average is about as follows:

Forced flexion, 70° to 80°. Forced extension, 140° to 150°.

Adduction is much more difficult to determine, but it may be said that a person sitting, holding the leg perpendicular to the floor, the foot being somewhat extended, should be able to raise its inner border until the sole forms an angle with the floor of about 60° to 40°.

In this position the patient with persistent abduction of the foot is usually unable to raise the inner border at all.

I wish to call your attention particularly to the fact that a foot with persistently restricted motion in any direction, especially in that of adduction, is in no condition to recover under treatment by blisters, bandages, or rest, unaided by other means. Sprains of the character we are considering are usually caused by a fall from a height, or by the body turning outward over the foot, straining and rupturing the internal lateral ligaments, a more sudden violence producing in the same manner a Pott's fracture. Either as the direct result of the accident, or from the subsequent weakness of the internal ligaments, a subluxation of the astragalus takes place downward and inward, while the remainder of the foot is thrown outward, so that a disturbance of the muscular equilibrium results. The adductors, working at a disadvantage, are unable to perform their functions, while the abductors, the peroneii, and extensor longus digitorum, in the effort to hold and steady the foot, are thrown into a state of spasmodic contraction, so that it is, as has been described, rigidly held in abduction, while the power of adduction is limited or lost.

Abduction of the foot is the position of weakness; adduction, that of strength and activity.

In other words, the usefulness of the foot depends upon the preponderance of power of the adductor muscles. When this is lost, weakness and pain ensue. If this proposition is accepted, the treatment becomes simple:

1. To overcome the contraction and spasm of the abductors.

2. To strengthen the adductors.

This can best be accomplished as follows:

The patient being etherized, the affected foot is forcibly extended and adducted—that is, the heel and toes are both turned inward, so that the inner border of the foot is bent like a bow; it is then forced inward under the leg to a position of extreme equino-varus, the operation being attended with audible cracking of adhesions in all the disused articulations. In this position a well-fitting plaster bandage is applied, with the object of persistently overstretching the shortened ligaments and contracted muscles and holding the foot firmly in its new position.

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* Read before the American Orthopædic Association at its fourth annual meeting.

The pain after the operation is much less than might be supposed from the violence that is often necessary to accomplish the result.

The bandage may remain on a variable length of time according to the subsequent pain and the difficulty that has been experienced in the reposition. From one to three weeks is the average time. When it is removed, the foot, though in good position, is usually somewhat swollen, sensitive to pressure, and all its movements are limited and often painful. Now a course of massage is necessary, gentle at first, followed by bandaging and complete rest. In two or three days, when the swelling has subsided, the patient begins voluntary exercises, assisted by the surgeon, the attempt being made to place the foot in the position of adduction—that is, to regain the motion that was lost. Thus, the patient contracts the adductors and flexors, while the surgeon aids, by gently pressing at the same time on the dorsum of the foot. At the conclusion of the exercise the surgeon, holding the foot firmly, turns it slowly inward toward the position of equino-varus, and retains it there until the involuntary resistance diminishes. This movement is usually accompanied by a very painful sensation of stretching in the muscles and ligaments of the outer border of the foot, which gradually diminishes as the foot returns to its normal condition. This portion of the treatment, described by the patients as "twisting," is by far the most important. Patients strongly object to it at first, but afterward submit to it willingly, as it relieves the sensation of painful stiffness, while the gain in range of motion after each application is very evident. When the pain and stiffness have diminished, usually in from one to three weeks, the patient is allowed to use the foot.

As the foot was formerly everted in walking, he now walks with the toes directly in front of the body, so that the flexors and adductors must be exercised with every step. He is to wear a Waukenphast shoe, as its inward twist aids in holding the foot in proper position. If necessary, its inner border may be built up, after the method of Thomas. I invariably use the foot brace, which has already been shown the society, to support the foot and prevent abduction until the patient by constant exercises and avoidance of improper positions has allowed the foot to return to its normal condition. These exercises are very simple:

1. The movements of adduction and extension which have been described.

2. Raising the body on the bare toes twenty to thirty times morning and night, as recommended by Ellis.

3. And most important, a correct walk, by which the body must be raised upon the foot at every step, as described in Vol. I of the *Orthopœdic Transactions*.

The successful treatment of this class of cases may, I apprehend, be summed up as follows:

Discover what movements of the foot are restricted, with the apparent causes.

Then a persistent endeavor to overcome such restriction—

1. By forcible reposition to break up adhesions and to overstretch the contracted muscles and ligaments.

2. A long-continued massage intelligently applied by the surgeon.

It is not sufficient to order rubbing of the foot—this has been done by the patient for months—but a manipulation diligently carried out with the purpose of stretching the shortened ligaments and overcoming the contraction and spasm of muscles.

3. A re-education of the patient as to the proper positions and movements of the foot.

This course of treatment is often long, tedious, and painful, but it is, I believe, the only one which may restore the injured member to strength and usefulness, and if the patient and surgeon are not prepared to carry it out, it is better for both that the attempt should not be made.

Having spoken of the treatment of this affection, we may now consider how such a condition may be avoided.

The surgeon called upon to treat a recent injury to the ankle should remember that the subsequent disability is almost invariably the result of abduction, because the original injury is usually to the internal lateral ligament and those of the medio-tarsal joint.

Consequently, it seems reasonable, in a sprain of any severity, to place the foot for several days in a well-fitting plaster bandage in the position of adduction, to guard against a possible subluxation of the astragalus, and to relax the injured ligaments and muscles; then a course of massage until the swelling has subsided and all the movements of the ankle and foot have been regained and are painless, with the temporary use of a foot-brace if necessary.

In conclusion, the history of many of these patients would seem to show a very discreditable ignorance among physicians as to the appearance of a normal foot and of the injuries and diseases to which it is liable. A sufferer from non-deforming club-foot, persistent abduction of the foot, or flat-foot, usually goes from physician to physician only to receive a prescription for a new liniment or antirrheumatic medicine.

Even when a correct diagnosis is made, surgeons are too often content with temporary relief, rather than insisting on the persistent treatment which may result in cure.

NOTE.—The term "persistent abduction" is used simply to describe the actual condition of an affection which is not flat-foot, yet nearly allied to it. At the reading of this paper it was suggested that there were two distinct classes of cases presenting the appearances described, one of which was purely neurotic and might be cured without reference to the local condition of the foot. Such cases must be extremely rare. Disordered reflexes may increase the effect of a local trouble, and a poor general condition must be treated as well as the local affection; but, other things being equal, the writer believes that the best way to treat neuroses, if such exist, producing the symptoms above described, will be to break up the adhesions, to replace the foot in normal position, to strengthen and re-educate its muscles in the manner already described.

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THE BACTERIOLOGY OF ACUTE CROUPOUS PNEUMONIA.

Dr. William H. Welch has reported to the Johns Hopkins Hospital Medical Society some of the results of his investigations regarding the bacteriology of acute croupous pneumonia. He has been able to discover the *Diplococcus pneumoniæ* in ten cases, all that were examined by him in this research, and to isolate the micro-organism in a pure culture. From a summary of Dr. Welch's remarks, given in the *Journal of the American Medical Association*, we learn, further, that he is inclined to accept the views of Fraenkel and others who teach that the diplococcus is the specific cause of the disease. In regard to Dr. Welch's culture experiments it may be said that he prefers the gelatin-agar medium, prepared according to the formula of Guarnieri; in that substance the growth of the pneumococcus was particularly luxuriant. He used other media, such as nutrient agar and glycerin-agar, making his cultures from the affected parts of the lungs, from the spleen, from the blood, and from various complicating lesions. In addition, mice and rabbits were inoculated with pieces of hepatized lung and of the spleen. In no instance was he able to produce pneumonia in the dog by means of any pneumococcus culture obtained by him; others, however, have attained to positive results by methods similar to those which failed in his hands. Dr. Welch observed in one instance that the presence of the organism would have been overlooked if he had not taken the precaution to make inoculations with bits of the tissues. He believes that the diplococcus should not be said to be absent simply on the ground of negative results from cultures; these results must be supplemented by the inoculation of susceptible animals. Moreover, the fact of failure to kill mice and rabbits by inoculations of the diplococcus from the human body is not conclusive evidence of the absence of the organism, since it may be found in man in a form that is incapable of destroying those animals. In some cases the pneumococcus did not kill rabbits, but did kill mice, making it evident that the latter are more highly susceptible and are to be preferred for the inoculation of tissues taken from the lungs in cases of croupous pneumonia. In three cases rabbits survived inoculation for more than five days, the longest duration being twelve days. When rabbits were inoculated with the exudation present in the bronchi or trachea, a speedily fatal result was sometimes obtained, even when the hepatized lung yielded a pneumococcus of diminished virulence.

The inference is very strong that the most virulent forms of the organism are to be found in the sputum, in the freshly hepatized lung, and at the margin of an advancing pneumonia, whereas the cocci present in advanced stages of hepatization and in the spleen are likely to be less virulent. In five of his cases there was a pleuritic exudate accompanying the croupous pneumonia, and this was examined by means of culture methods, revealing the pneumococcus in every instance. The organism has also been found in other cases of empyema following that disease. The pneumobacillus of Friedländer was not found in any case. These studies by Dr. Welch appear to confirm Fraenkel's statements as to the behavior of the *Diplococcus pneumoniæ* in artificial culture media, its susceptibility to slight changes in the composition and reaction of the medium, and its brief vitality. The frequent presence of the pneumococcus in health in the human saliva is an occurrence which, on the whole, must be of assistance in explaining the various factors that are concerned in the causation of croupous pneumonia. Dr. Welch deals with the history of the question briefly, giving to Dr. Sternberg the credit of the discovery, in 1880, of the salivary coccus, which he derived from his own buccal secretions and with which he inoculated rabbits at that time, producing fatal results. Dr. Welch does not adopt the term *Micrococcus Pasteuri*, given to the organism by Dr. Sternberg, and he does not appear to accept that which is more commonly used by European bacteriologists, for he speaks of it as "the so-called Fraenkel-Weichselbaum pneumococcus." These researches of Dr. Welch's have been made with great care and many precautions against possible error, and will convince not a few doubtful minds that the ætiology of croupous pneumonia is largely influenced by the *Diplococcus pneumoniæ*.

FURTHER ADVANCES IN CEREBRAL SURGERY.

Last winter we referred to the work of Dr. T. Claye Shaw in treating general paralysis of the insane by trephining. At the recent meeting of the International Medical Congress Mr. Victor Horsley spoke of the value of the operative treatment of certain neuroses and psychoses. In a case of athetosis, a symptom of which the pathology is obscure, though he believes it is always a sign of cortical lesion, the limbs had been progressively invaded, beginning with the thumb; he accordingly removed the thumb center. A paralysis of motion followed, lasting forty-eight hours; then the spasm returned in a measure in the parts supplied by the cortex bordering upon the excised portion. It was therefore necessary to remove the center for the whole limb; the operation was intended to relieve only the spasm and not the paralytic condition.

When operative interference in general paralysis and alienation is considered, Horsley believes that recovery from the disease is possible, though he has not had personal experience bearing on the point. His sanction of the potentialities of the operation was confirmed by the unique experience of Dr. Burckhardt, who has operated in six cases of psychoses. In two cases his aim was to intercept the paths of cortical association that, in his opinion, transmitted pathological impressions arising in sensorial and ideogenous portions of the brain; he has thus removed bands of the frontal and parietal cortex, anterior and posterior to the ascending convolutions. In one case the result had been most satisfactory; in the second, that was still under treatment, the improvement had been only partial. The four other cases were accompanied with more or less acute hallucinatory delirium. The indication was to abolish, or reduce at least, the verbal hallucination as much as possible. But Dr. Burckhardt thought that the auditory verbal hallucinations could only be produced when the logogenic centers in the brain were in action. Verbal deafness and aphasia have acquainted us with two cortical centers for the formation of words, and Burckhardt believed that these centers were indispensable for the genesis of verbal hallucination. To cure the hallucinations it is therefore necessary to attack the centers directly and to excise portions of the first temporal and of the third frontal convolutions of the left cerebral hemisphere. In three cases the result was satisfactory, perhaps not final; but in case of a relapse it is intended to excise a portion of these convolutions again. In the fourth case, in which a very satisfactory result was expected, the patient died on the sixth day of cerebral vascular paralysis, due without doubt to the use of the scissors. But for this disaster the actual results were encouraging during the two years in which the work had been prosecuted.

These results are remarkable, and must be considered by those having the treatment of such cases within their hands. But cerebral surgery to-day affords the promise, both of success and of failure, that abdominal surgery has offered during the past decade; and a similar *furor secandi* will probably be manifested for some years, until larger experience teaches surgeons when to be bold and when to refrain.

CLOSTRIDIAL NEPHRITIS.

Dr. F. V. Hopkins, of San Francisco, has made a bacteriological study of a fatal case of renal disease, which has been reported in the *Pacific Medical Journal.* The patient suffered with a chronic affection of the kidneys and other organs, characterized by albuminuria, dropsy, nervousness, insomnia, flatulent dyspepsia, dyspnœa, and heart failure. Casts were present, which, in part, were made up of bacteria occurring in the form of rods with rounded ends. To this micro-organism Dr. Hopkins has given the name *Clostridium renale*, and he regards it as the cause of a peculiar form of chronic nephritis, which he would distinguish from the common forms of Bright's disease, under the term "clostridial nephritis." The bacterium occurs as circular cocci, as rods with rounded ends, and as filaments, in some cases tapering, and in others having the same thickness throughout their whole length. It is non-motile and infests the blood; from which it passes into the capillaries of the principal organs, which it obstructs. The organism is obtained in the urine, free and in casts, and is pathognomonic of clostridial nephritis. Dr. Hopkins's research included some cultivations of these bacteria, under proper precautions, and inoculations of rabbits were made, with the result of invariably causing in them a fatal dropsy and albuminuria, with the kidneys and other organs occupied by the germs.

Whether Dr. Hopkins's discovery of a new form of Bright's disease is confirmed by future observations or not, his work in this particular instance is instructive and exemplifies the importance of a bacteriological examination of the urine and casts. He has assumed that the renal affection in his patient was the primary and significant disease, whereas it may have been a secondary manifestation, due to a systemic bacterial infection, capable of invading the kidneys in common with various other structures. Dr. Hopkins makes bibliographical reference to the work of other observers who have reported cases of bacillar nephritis. Among these was Letzerich, who described in 1887 a series of twenty-five young persons who suffered from an acute renal dropsy which he called nephritis bacillosa interstitialis primaria. This disease is due to bacilli, which swarm in the urine, and may last from four to six weeks. Pure cultures of these organisms were made and rabbits were inoculated therefrom, causing ascites in about two weeks. The bacilli were found at the junction of the pyramidal and cortical portions of the kidneys.

MINOR PARAGRAPHS.

THE SUCCESSFUL REMOVAL OF A PANCREATIC CYST.

In the *Lancet* for September 27th, Mr. Frederick Treves reports the case of a man, aged forty, who was healthy until eight months preceding treatment, when a throbbing sensation was noticed in the umbilical region with subsequent pains, and general fatigue. A physician who was consulted discovered a swelling in the abdomen, so the man sought relief in a hospital. His expression was melancholic, his complexion was of a dirty-brown color, his pupils were contracted, and he showed great lassitude. The abdominal tumor extended from three inches above the umbilicus to the pubes, and laterally it occupied almost the entire front of the abdomen The growth felt smooth, and was firm, elastic, painless, and fixed; it could not be reached through the rectum. A space existed between it and the liver, and respiratory movements did not affect it. The pigmentation of the face and contraction of the pupils were ascribed to pressure on the solar plexus; the rapid growth suggested a sarcomatous tumor. The patient requested that an operation be attempted, and an infra-umbilical incision revealed a reddish-brown, smooth, retroperitoneal cyst. An incision into the cyst let out about a hundred ounces of thick, opaque, brownish-red fluid. The margins of the cyst wall were attached to the parietal wound by fourteen sutures, and a drainage-tube was inserted in the cavity. The discharge from the cyst was copious at first, but soon became thin and pale; it did not irritate the integument. The stitches were removed by the tenth day, but the patient remained in bed for almost six weeks. For two weeks after the operation he was apathetic and in the semi-somnolent condition of a person under the influence of morphine. When he was discharged, two months after the operation, a sinus still remained that did not close until a month later. Two years after the operation the patient was in excellent health.

LUNACY IN IRELAND.

On the 1st of January last there were held in district and private asylums, jails, poorhouses, and criminal asylums in Ireland 16,159 lunatics, being an increase amounting to 474 as compared with those on the 1st of January, 1889. This increase is greater than at first sight it appears, inasmuch as the population of Ireland has of late years decreased considerably in consequence of emigration. As regards the condition of the insane scattered through the various workhouses, it can not be regarded as satisfactory, and the only plea for their detention at present is that they are destitute persons. As no legal power exists for their detention and safe-keeping, it is not to be wondered at that the provision for the proper care and maintenance of harmless lunatics and idiots in these institutions does not meet the requirements of this helpless class. The Inspectors of Asylums intend at an early date to report on the condition of the insane in the various licensed houses in Ireland, as they are of opinion that, with a few exceptions, they are not entirely satisfactory. Many contain but two or three patients, whose contributions toward their support will hardly admit of due provision being made for their proper care. The extension in Ireland of public hospitals supported by public grants, or charitable institutions for the reception of the insane whose friends are able to contribute only a small sum for their support, appears to be a want urgently felt.

A DEMONSTRATION OF THE AMŒBA COLI IN DYSENTERY.

In the *Johns Hopkins Hospital Bulletin* for September there is a note on a case of dysentery in a seaman, aged twenty-seven years, who had not been in the tropics since 1880, but had been attacked with bloody stools a week before his admission into the hospital. A microscopical examination of the stools by Dr. Lafleur showed numerous actively moving amœboid bodies of from five to seven times the size of a leucocyte; they were of a pale bluish-green color, and contained one or more small vacuoles surrounded by fine and often highly refracting granular particles, each body being invested by a homogeneous outer zone looking like finely ground glass. The outer layer would be slowly projected from some part of the surface in the form of a hemispherical knob, and the granular center of the body would then flow into this with a rapid motion. To detect these bodies, first described by Losch in 1875, the stools should be passed into a bed-pan previously warmed with hot water and an examination of the discharge made at once. They are most abundant in the grayish-yellow pus collections. This was the first time they had been demonstrated to a medical society in this country.

THE NEW ST. FRANCIS HOSPITAL IN JERSEY CITY.

The new building adjoining the original hospital, in East Hamilton Place, was opened on Saturday, the 4th inst., with the ecclesiastical ceremonies customary with the Roman Catholic Church on such occasions, with the co-operation of the medical staff, the architect, and representatives of the clerical and medical professions in several neighboring cities. The hospital is under the care of the Sisters of St. Francis, and that fact of itself insures the excellence of its management. Its standing with the medical profession is correspondingly high; by many it will long be remembered as the scene of much of the good work done in surgery by the late Dr. Varick. The additional building now completed makes the hospital practically a new institution—one thoroughly equipped with the requisites of a modern hospital, including a medical and surgical staff of exceptional efficiency, enthusiasm, and singleness of purpose.

THE ACTION OF STROPHANINE.

According to the *Lancet*, Dr. Rothziegel finds that strophanine, the active principle of strophanthus, in doses of one three-hundredth to one two-hundredth of a grain daily, improves the circulation, strengthening the pulse, and attaining its full effect in two or three days. It relieved the dyspnœa, palpitation, and other symptoms occurring in organic heart disease; in time increased the flow of urine without irritating the kidneys; it did not produce gastric symptoms; it had no cumulative effects; and it only indirectly, but favorably, improved the nervous symptoms. It acted most rapidly when given subcutaneously, and it is said to be indicated in valvular disease with or without affection of the myocardium, while in Bright's disease it produces diuresis. Strange to report, the tincture of strophanthus acted more certainly and more quickly than the alkaloid.

CREOLIN IN THE TREATMENT OF CHANCROID.

The *Bulletin général de thérapeutique* for July 15th publishes an account of the experience of Dr. José Busque, of Pelotas, Brazil, in the use of creolin as an application to soft chancres. It was used in the proportion of from twelve to twenty parts of creolin to a thousand parts of water, and is stated to have caused the sores to heal rapidly even in cases in which the action of corrosive sublimate and that of iodoform had been tardy. However, the most rapid healing was secured by employing creolin and iodoform together.

METHYLENE BLUE AS AN ANODYNE.

The *Practitioner* cites from the *Pharmaceutical Journal and Transactions* an account of the results of the use of methylene blue as an anodyne in the Moabit Hospital in Berlin. Its employment in this way was suggested by its remarkable affinity for nerve-tissue, and especially for the axis-cylinder, in histological staining. When administered internally, even in the smallest doses, it could be detected in the urine in a quarter of an hour. It was found to act as an anodyne in various painful local diseases, such as neuritis and rheumatic affections of the muscles, joints, and tendon-sheaths.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 7, 1890:

DISEASES.	Week ending Sept. 30.		Week ending Oct. 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	61	11	39	3
Scarlet fever	27	3	28	1
Cerebro-spinal meningitis	3	3	2	2
Measles	25	2	43	4
Diphtheria	54	14	57	13
Small-pox	1	0	0	0
Whooping-cough	2	0	0	0

The Kings County Medical Association will meet on October 14th, at Kunzler's Hall, near the Post-Office, Brooklyn. The paper of the evening will be read by Dr. Nelson L. North, on The Medical and Surgical Treatment of Tuberculosis.

The District Medical Society of Northwest Missouri held a meeting in St. Joseph on Thursday, the 9th inst., under the presidency of Dr. James W. Heddens, of St. Joseph. The following were among the papers presented: When and how to use the Obstetric Forceps, by Dr. A. Goslin, of Oregon, Mo.; The Most Frequent Cause of Death after Abdominal Section, and its Prevention, by Dr. George Nash, of Maryville; A Function of the Colon, by Dr. M. Rhodes, of Graham; The Eye in General Diseases, by Dr. P. I. Leonard, of St. Joseph;

Pudendal Thrombus—History of a Case, by Dr. F. G. Thompson, of St. Joseph; Paraldehyde as a Hypnotic, by Dr. F. C. Hoyt, of St. Joseph; Excision of the Breast, by Dr. J. A. McKinnon, of Maysville.

The Medical Society of the State of New York.—The eighty-fifth annual meeting will be held in Albany on Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1891. The Business Committee has been appointed and is composed of the following-named gentlemen: Dr. Herman Bendell, 178 State Street, Albany, chairman; Dr. Seneca D. Powell, 12 West Fortieth Street, New York; and Dr. James D. Spencer, Watertown. The president, Dr. W. W. Potter, of Buffalo, says that all who intend to present papers should send the titles thereof to any member of the Business Committee not later than December 15, 1890, as the programme will be made up and issued early in January.

The Medical Society of the County of Ontario.—At the meeting to be held on Tuesday, the 14th inst., in the Court House in Canandaigua, at 10.30 A. M., Dr. Charles H. Richmond, of Livonia Station, will report a case of intestinal anastomosis for fæcal fistula, and reports of other cases of interest are expected.

The New Tariff and Medical Books.—Some of our readers may not be aware that under the new tariff law foreign medical books printed in any other language than English are admitted without the payment of duty.

Changes of Address.—Dr. Charles H. Chetwood, to No. 120 East Thirty-fourth Street; Dr. H. Newton Heineman, to No. 60 West Fifty-sixth Street; Dr. George A. Peters, to No. 45 West Thirty-fifth Street; Dr. Royal Whitman, to No. 126 West Fifty-ninth Street.

The Death of Dr. Montrose A. Pallen took place on Wednesday, the 1st inst. He had long been in poor health, and his death was not unexpected. The deceased was for a time a member of the faculty of the Medical Department of the University of the City of New York, and previously of that of one of the St. Louis colleges. During his active professional career he was a prominent gynæcologist.

The Death of Dr. Cosmo Brailly, of New York, occurred on Sunday, the 5th inst., at Hazlet, N. J., where he had been spending the summer. He was a native of France, but had practiced medicine in New York for nearly fifty years.

Society Meetings for the Coming Week:

MONDAY, *October 13th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt, Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

TUESDAY, *October 14th:* Tri-State Medical Association (first day—Chattanooga); New York Medical Union (private); Kings County, N. Y., Medical Association (Brooklyn); Medical Societies of the Counties of Albany (annual), Chenango (tri-annual), Greene (semi-annual—Cairo), Jefferson (quarterly—Watertown), Oneida (quarterly—Utica), Ontario (quarterly—Canandaigua), Rensselaer, Schoharie (semi-annual), Tioga (quarterly—Owego), and Wayne (semi-annual), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Bergen, N. J., and Cumberland (semi-annual), N. J., County Medical Societies; Litchfield, Conn., County Medical Society (annual); Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *October 15th:* Tri-State Medical Association (second day); Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); Medico-legal Society; Medical Society of the County of Allegany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, *October 16th:* Tri-State Medical Association (third day); New York Academy of Medicine; Metropolitan Medical Society (private); New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *October 17th:* New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society (annual); Baltimore Clinical Society.

SATURDAY, *October 18th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

MASSAGE IN SWEDEN.

STOCKHOLM, *September 15, 1890.*

To the Editor of the New York Medical Journal:

SIR: This attractive and picturesque city in the North, built on several islands on Lake Mälar and an arm of the Baltic Sea at the point where the two meet, and laying claim to the titles of "The Venice" and "The Paris of the North," is rapidly making good another claim, "The Mecca for Gynæcologists"; for since some four years ago, when Major Thure Brandt went to Jena at the invitation of Professor Schultze, of that place, and subjected his method of treating cases of pelvic affections to the close scrutiny and criticism of that distinguished gynæcologist, physicians in great numbers, from Germany, Austria, Russia, and a few from other countries, have flocked here to see and acquire the method. When we reached Norway about three months ago, we wrote to Major Thure Brandt expressing our desire of working under him for a time. The reply was courteous, short, and prompt in making its appearance. It stated a condition of having to agree to remain two months should he think it necessary. Having accepted the condition, we accordingly presented ourselves on the morning of the 1st of September, and were shown into a large and artistically furnished parlor to await the master. In a few minutes a man well advanced in years (seventy-one), but with a firm and elastic step, military bearing, a fine physique, and a finely shaped head well poised on broad shoulders, entered and extended to us a cordial welcome with a warm shake of the hand.

Every morning (excepting Sunday) at eleven o'clock the patients present themselves for treatment. They congregate in a large waiting-room, devoid of carpet, and around the three sides of which are ranged a number of low couches and cane-bottom chairs, with high, straight backs. Here they are put through a number of gymnastic movements by a bright, intelligent little woman — Miss Johnsson, Brandt's assistant. On watching these manipulations for the first time, as each patient in turn was subjected to a certain manœuvre, then let alone for five or ten minutes, to be taken up again for a different exercise, the impression produced was rather comical. One recalled Lord Dundreary's system of "taking exercise in compartments." But a longer observation revealed the facts that each patient was provided with a formula of the movements to be carried out, that each movement had a distinct object in view relative to the disease with which the patient was suffering, and that, in accordance with an old law in medical gymnastics, a certain interval must intervene between the execution of the different exercises.

Major Thure Brandt always applies the special treatment of the pelvic contents himself in a separate room—*i. e.*, he never intrusts it to his assistant. One is not here long before he is fully convinced of the utter futility of trying to learn the method from books and articles—a fact insisted upon by every one who has written on the subject after having seen Brandt work.

Another point which one soon learns, and which also has been freely expressed by the same writers, is that this non-medical man possesses a diagnostic skill which would put to shame many an eminent gynæcologist. His knowledge of the anatomy of the contents of the abdomen and pelvis is extensive, and in the main correct. This is not the time or place to express an opinion on his method, which also requires a fuller acquaintance and a longer observation than we have as yet gained. But so much we can venture to say, that the impression so far is extremely favorable, and that much more can be accomplished with it, in a certain class of cases, than we had thought it possible before coming here. Whether this layman will prove to be another veritable Preissnitz is, perhaps, at this stage, too early to predict. But too much praise can not be bestowed upon him for his conscientiousness, his earnestness, his generosity, his sacrifices, and his self-disinterested desire to propagate his system and to relieve suffering womankind.

This city, as is well known, is the home of medical gymnastics and massage. A visit, therefore (in fact, we have already made many), to the Central Gymnastic Institute is not only interesting but profitable. At our first visit we were conducted through the building by the genial, courteous, and highly cultured Professor L. M. Törngren, the chief of the institute. Every part and contrivance was shown and fully explained in excellent English by the professor. On entering one of the rooms, we took by surprise a number of bright-looking girls, each poring studiously over a work on anatomy and some bone of the human frame. The number of very fine human skeletons and bones in this room surprised us in turn, as did also the information that the students had to follow the dissection of six whole bodies each session for two sessions. How many of our medical schools call for as much from their students? The students are also given a good grounding in physiology and in the diagnosis and pathology of those diseases amenable to treatment by medical gymnastics and massage. Before receiving a diploma the student must have attended two full sessions of eight months each, and have passed a creditable examination in the foregoing subjects. But, for fear some of your readers, who are sending patients to Swedish masseurs and masseuses, on reading this will fall into a false security, I hasten to add that Professor Törngren assures me that there are only three of their graduates in the whole of the United States, and that not one of these is living in New York city. Of course, New York may, nevertheless, have some very competent masseurs and masseuses, but it is well to bear in mind the foregoing circumstance when subjecting one's patient to treatment by massage. This treatment, which has grown so much in fashion with us lately, as it is witnessed here, though capable of doing much good in certain cases, is certainly capable of inflicting much harm when done injudiciously or by untrained persons.

H. N. Vineberg, M. D.

EXTRACT OF PINUS PALUSTRIS AS A VULNERARY.

Charleston, S. C.

To the Editor of the New York Medical Journal:

Sir: I wish to call the attention of the profession to a treatment which, so far as I know, is original, and with which I have had marked success in the treatment of fistula in ano.

After the proper surgical procedures have been carried out, a strong extract of lightwood (*Pinus palustris*) in alcohol is applied. This very adhesive preparation glues together the edges of the wound and thus insures quick and healthy union. The advantages alleged for this treatment are: 1. That the divided tissues are kept firmly held together, and thus their union is quickly attained. 2. The extract of lightwood acts as a healing agent, stimulating to just such a degree as is necessary to bring about quick and healthy union. The utility of this mode of treatment, I am quite sure, will be very evident to all who give it a fair trial, and it will, I am equally sure, supersede the time-honored use of styptics in these cases. The extract may be used either with a syringe or else applied directly by a suitable instrument when the tract, sinus, or broken tissues are in view. Of course, the application should be made daily, or so long as the parts do not appear firmly united. The extract of lightwood is simply made by placing in a small quantity of alcohol a number of shavings of fat lightwood, gauging the quantity so as to get an extract of a syrupy consistence.

Whenever, then, the close apposition of surfaces after surgical procedures is necessary to bring about healthy union, the application of this extract will meet the indication and will, indeed, take the place of sutures in those parts of the body where they are inapplicable. Allard Memminger, M. D.

⁂ In a supplementary letter, Professor Memminger informs us that the extract is made from only those parts of the tree that have been converted into "lightwood," and from which much rosin is exuding, such as the knots of the trunk of a tree that has been felled for some time and is elsewhere undergoing decay.

Proceedings of Societies.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Meeting of August 26, 1890.

The President, Dr. W. W. Parker, in the Chair.

(*Reported by Dr. J. W. Henson, Richmond.*)

Symptoms of Cocaine Poisoning from Half a Drachm (per rectum) of a Three-per-cent. Solution.—Dr. Ramon D. Garcin reported that six weeks or two months since he had been called to see Mr. F., who had been operated upon by an irregular, who was out of the city when the speaker was called. When he had reached the man he was suffering intensely, and morphine hypodermatically not relieving him, half a drachm of a three-per-cent. solution of cocaine was administered *per rectum*. No relief of pain had ensued, but in a short time breathing had become quickened, extremities cold, pulse rapid and weak. The man had described his flesh as tingling like the sensation felt upon first grasping the poles of a galvanic battery. By the use of stimulants he had soon rallied.

Dr. J. P. Roy asked if the muscles of deglutition were affected.

Dr. Garcin replied that they were not.

A Case for Diagnosis.—On July 8, 1890, Dr. Garcin said that he had been called to see Mr. M., aged nineteen years, who had complained of intense nausea and pains resembling cramps in the region of the epigastrium. The history of the case before this was negative. He had been to work up to the day before taking his bed, although a week previously there had been a slight diarrhœa for a few days; but when the doctor was called the man had said that his bowels were in a normal condition. His tongue was very slightly furred, temperature (by mouth) 98·5° F., and the abdomen, especially about the umbilical region, was very tympanitic. A distinct gurgling (exactly resembling that of typhoid fever) was present in both iliac fossæ. The bowels had been moved once that day.

The speaker had given a simple anodyne for the cramps, which had soon afforded relief, and dilute hydrochloric acid, fifteen drops every four hours.

July 9th and 10th.—Patient about the same; bowels acting once daily. A mixture of equal parts of turpentine and sweet oil was ordered applied over the iliac region. He had from the first ordered liquid diet. The temperature was normal; taken once that day.

12th.—The characteristic diarrhœa of typhoid "pea-soup" discharges; temperature normal, morning and evening. Tympanites being more decided, fifteen drops of turpentine in emulsion every six hours was ordered.

13th, 14th, and 15th.—Tympanites decidedly diminished. Diarrhœa worse toward evening; three, four, and sometimes five discharges from 3 P. M. to 6 or 7 P. M. The speaker ordered fifteen drops of dilute hydrochloric acid and ten grains each of lactopeptine and bismuth subnitrate every four hours.

16th and 17th.—Patient seen for the speaker by Dr. R. T. Ellis.

18th, 19th, 20th, and 21st.—Bowels not so bad; tympanites had disappeared; slight gurgling in right iliac fossa; no fever.

22d.—Pulse and temperature normal; bowels moved once; tongue healthy.

The interesting features of this case, said the speaker, were (1) entire absence of fever, morning and evening; (2) absence of the typhoid tongue; and (3) absence of coma, the man being conscious throughout the attack. The after-treatment had been a tonic of vin Mariani. The patient was out by August 1st.

The PRESIDENT asked if there was any history of phthisis?

Dr. GARCIN replied No.

Dr. J. M. WINFREE—Any pain, mucus, or blood?

Dr. GARCIN—Some pain; no mucus or blood.

Dr. T. J. MOORE—How long was the man sick?

Dr. GARCIN—About three weeks.

Dr. MOORE—Did Dr. Garcin see him when first taken?

Dr. GARCIN—Yes, when he first took to bed; but he had been complaining before, although at work up to the day before the first visit.

Dr. MOORE—What was his work?

Dr. GARCIN—Apprenticed lithographer.

Dr. MOORE—Did he work in lead?

Dr. GARCIN—Yes; a little in mixing paints.

Dr. MOORE stated that the symptoms were so obscure it was impossible to make anything like an accurate diagnosis.

When a person was subjected to the gradual and prolonged absorption of lead, there occurred sometimes a condition where there was no manifestation of colica pictonum proper, but a certain degree of constipation followed by an irritative diarrhœa. Possibly this patient was so affected. The diurnal normal temperature excluded typhoid fever. There was sometimes a condition of bowel where a local irritation of a diarrhœic character congested and caused ulceration of Peyer's patches; this might give the characteristic pultaceous stools with the fœtor of typhoid actions, accompanied by tympanites. Mere tympanites occurred in so many conditions that it was not calculated to lead up to a diagnosis. Tenderness in the ileo-cæcal region was more directly prognostic.

Abscess of the Parotids complicating Typhoid Fever.—The PRESIDENT had seen, in a boy aged sixteen years, abscess of each parotid gland as a complication of typhoid fever. Each abscess had discharged from the ear before being lanced, the discharge through the ear ceasing after the lancing. The point was that the boy had recovered, though some one had stated that all cases of typhoid fever with abscess about the parotid gland proved fatal.

Dr. MOORE said that several years since Dr. R. M. C. Page, of New York, had written an article on secondary parotiditis in which he had stated that when suppuration of the parotid gland arose as a complication of typhoid fever, nearly all cases so affected proved fatal.

Dr. ROY had had a similar case to Dr. Parker's last autumn occurring in about the third week of typhoid. As in Dr. Parker's case, each abscess had discharged from the ear. There had also been an accompanying cancrum oris—a spot of gangrene of the size of a silver dollar appearing on the outside of one cheek before death, which had followed soon.

Aneurysm of the Arch of the Aorta.—Dr. LEWIS C. BOSHER had been called in consultation with Dr. Jones to see a colored woman who was suffering from the effects of a pulsating tumor occupying the upper part of the left side of the thorax. He had found a patient about thirty-five years of age who was exceedingly emaciated and suffering greatly from pain, dyspnœa, and extreme debility. She had little or no appetite. On examination, the tumor, which had measured about three inches by three inches and a half at every point, had given a distinct pulsation corresponding to the cardiac systole. The stethoscope gave only an indistinct bruit. The sternum had appeared to project forward, and there was a complete dislocation of the left clavicle at the left sterno-clavicular articulation. He diagnosticated the tumor as an aneurysm of the arch of the aorta, which had projected forward, pressing against the sternum, ribs, and clavicle, and causing absorption of the former and dislocation of the latter. On Saturday night last this patient had died, and yesterday, with the assistance of Dr. C. A. Blanton, Dr. Daniel J. Coleman, Dr. Jones, and others, a post-mortem was made which had confirmed the diagnosis. A sacculated aneurysm, springing from the arch of the aorta and projecting forward and upward, had dislocated the left clavicle at its sternal end and had caused absorption of some of the upper ribs as well as the sternum at the junction of the manubrium and gladiolus. There was a slight rupture in the sac from which there had been probably a slow leakage of blood, thus accounting for the gradual, rather than the sudden, death, such as results from sudden rupture and copious hæmorrhage. The left side of the thorax was filled with blood.

A Limit to Life in Organic Heart Disease should be set with Caution.—The PRESIDENT had reported, two or three years ago, the case of a man, aged about seventy-five years, with enlarged and valvular disease of the heart. Pulse had been 24 per minute for months at a time. While under his observation —a period of about two months—he had apparently died four or five times a day. At the end of two months he had left town —now over two years since. He had just died a few days ago.

A doctor should be careful how he limited life in a person with organic heart trouble. As illustrative, the speaker told of a man named Shook, the action of whose heart (from hypertrophy) had been so violent as to shake the bed. After being in bed several months, he had got up and walked about for one or two years.

Mastoiditis in the Negro.—Dr. W. F. MERCER asked if anybody had ever seen mastoiditis in a full-blooded negro. Dr. T. E. Murrell, of Little Rock, Arkansas, had stated that mastoiditis was never seen in a full-blooded negro. In a dispensary practice of six years (the majority of the patients negroes too) the speaker had never seen a case in a full-blooded negro until within the last two months—one case occurring in a man. His only evidence that he was full-blooded was his appearance and statement.

The PRESIDENT had had a case in a mulatto. This had been operated upon by Dr. J. A. White, but death had occurred in three or four weeks afterward.

Continued Fevers.—The PRESIDENT had seen some time ago a case of fever with Dr. O. A. Crenshaw, who, a great believer in typhoid fever, had insisted that this was typhoid for some time; but it was not. The woman had been badly treated by her husband. The speaker thought it an irritative fever. It had terminated favorably after three or four weeks' duration. It was not usual, though, to see a continued fever unless it be typhoid. He had seen numbers of cases of slow-pulse typhoid before the war. The amount of prostration, however, proved them to be typhoid to his mind. He was now attending a young lady who had had typhoid fever in Charlottesville. Supposed to be decidedly convalescent, she had been brought here two weeks ago to escape diphtheria. Moving had done a great deal of harm. Her temperature was now 103° F. She could not walk five steps now without help. He had been called on Saturday night to see a young man in the same house with the young lady. His temperature was 103°, and he had presented the symptoms of cold—flushes and steams alternating with cold chills. The speaker thought it a general inflammatory fever or a sort of general rheumatism. He had given him calomel and soda then, and on Sunday quinine, five grains every four hours. On Monday he was in a profuse cold sweat, pulse feeble, no fever from symptoms, bowels and tongue pretty good, appetite bad except for liquids. He thought he would soon be better. Tuesday (to-day) his temperature was 103°. Perspiration gone. Skin hot.

The speaker had forgotten to say that he had had two hæmorrhages from the nose on Monday night. He thought the case peculiar, and was uncertain whether it was typhoid or not.

Dr. M. D. Hoge, Jr., asked if there was any cough?

The President replied, None.

Dr. David McCaw—Had the patient been given any antipyrine?

The President—None. Had Dr. Moore seen any cases of continued fever not typhoid?

Dr. Moore replied, Yes.

The President—What was the pathology of them?

Dr. Moore stated that every fever was continued in which there was no intermission—for example, remittent malarial fever. What was the president's idea of continued fever?

The President thought typhoid and typhus continued fevers, but not malarial fever.

Dr. Moore stated that he had seen a form of fever this season that had corresponded neither in type nor characteristics to either remittent or typhoid fever.

He thought the lines were too sharply drawn by the writers concerning the continued fevers common to various sections of the United States. We saw occasionally in this part of Virginia a form of fever congestive in type (attributable to heat and the peculiar atmospheric conditions), with high and irregular diurnal thermometric ranges, great rapidity of pulse, congestion and tenderness of spleen and liver, congestion of kidney, a certain amount of tympanites, and of uncertain duration, lasting often from ten days to two weeks. It did not yield to quinine, while alterative doses of mercury modified the disease and shortened the duration of the fever. It was accompanied by a bilious diarrhœa, yielding best to bismuth and opium. Typhoid existed in all parts of the United States. It was most prevalent and violent in type in high altitudes. It hugged the mountains and a belt of Piedmont country contiguous thereto. It was also found in the low country and in Tertiary formations. It was modified in many of its symptoms by the effect of prolonged heat and the structural alterations of the glandular organs, particularly the spleen and liver, by malarious influences. The speaker was not referring now to the disease called typho-malarial fever. The cause of typhoid fever had never been ascertained. Scientific men had offered many suggestions without definite results. Sewer-gas was often mentioned as the vehicle by which the specific poison was conveyed. In many places, especially mountainous sections, both sewers and sewer-gas were unknown. Running and well water were both frequently thought to contain the specific poison. He did not believe a specific cause or germ had been definitely ascertained. He related how an old Tennessee doctor, unlettered but experienced, at some convention had stated that he knew nothing of germs and the other new-fangled notions in regard to the cause of typhoid fever, but that whenever he could induce any of his families to locate their stables and hog-pens at a sufficient distance from their houses, and remove their chip-piles at the proper seasons, he noticed that such families were not troubled with typhoid fever. Typhoid differed markedly in regard to the severity of attacks, embracing from the walking cases upon the one hand to the malignant upon the other. In regard to the perspiration mentioned by the president, he had seen frequently profuse sweats in the first week of conception of typhoid fever, but usually there was a dry skin.

The President remarked that in some parts of East Tennessee the people forty years ago had never heard of sewers or sewer-gas, or of typhoid fever. But he spoke of an old gentleman, owning about seventy-five negroes, and who had lived seven miles from his nearest neighbor, and the fact that a while later typhoid broke out among his slaves, though, as stated before, it had not been heard of previously.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of May 30, 1890.

The President, Dr. G. Armstrong, in the Chair.

Sudden Death from Rupture of a Gummatous Tumor of the Heart-wall.—Dr. John A. Hutchinson exhibited the heart of a young man who had died suddenly. He had not known him at all during life, but had good reason to believe that he had been under treatment for syphilis. The heart had been removed by order of the coroner, and a caseous tumor, probably a gumma, had been found in the wall of the right ventricle. This had broken down on its inner side, and its contents, which were almost liquid, had escaped into the ventricle.

Obstruction of the Bowel by a Gall-stone followed by Spontaneous Relief.—Dr. Bell exhibited a gall-stone of a round outline as large as a walnut which had been passed *per anum* under the following circumstances: The patient, a spinster aged sixty-seven, had enjoyed good health, with the exception of an obscure illness somewhat resembling typhoid fever three years ago. The present illness had begun with abdominal pain and discomfort, and it had soon become evident that an acute obstruction was present. Abdominal section had been proposed but obstinately objected to by the patient. Subsequently repeated enemata had been employed. On the sixth day the bowels had moved spontaneously and this huge gall-stone had been found in the fæces.

Enormous Vesical Calculus.—Dr. Hingston exhibited an enormous stone, weighing a few grains over five ounces, which he had that day removed from the bladder of an elderly man by the lateral method. He compared it with a stone nearly as large which he had removed by the same method sixteen years ago.

The Distribution of the Lesions in Chronic Phthisis.—Dr. I. G. McCarthy read the paper of the evening with this title. After rapidly reviewing the advances made in the study of tuberculosis, he explained the theory of localization of the tubercular lesions of the lung enunciated in 1888 by Dr. I. Kingston Fowler, of the Brompton Hospital for Consumption, and related his own experiences of many chest cases examined in that hospital, while he was attending Dr. Fowler's clinic, where he had opportunities of verifying the doctrines of his teacher. He had found, too, that "the disease in its onward progress through the lungs, in the majority of cases, followed a distinct route from which it was only turned aside by the introduction of some disturbing element." This doctrine was based upon numerous post-mortem examinations and an extensive clinical experience. It had been long established that the apex of the upper lobe—that was, the apex of the lung—was the usual site of deposit, and that it was generally the part to be first affected. Fowler had defined two points as the sites of the primary lesion. The one most frequently found was situated from an inch to an inch and a half from the summit of the lung and nearer the posterior than the anterior surface. On the chest this corresponded to a point above the clavicle, or immediately below the center of that bone; posteriorly it was in relation with the supraspinous fossa. Hence, the examination of the supraspinous region was of the utmost importance. The disease next tended to spread downward at about three fourths of an inch from the surface of the lung anteriorly, and was mapped out on the chest-wall by a line corresponding to an inch and a half from the inner ends of the first, second, and third interspaces. The disease here was made up of new foci occurring in nodules, with normal lung-tissue intervening. As the disease progressed, a time would come when, by the softening and extension of these nodules, there would be physical signs of extensive disease anteriorly. But this did not take away from the fact that the disease, in the first instance, occurred nearer the posterior surface and tended to spread backward.

The other and less frequent site of the primary lesion was in relation with the first and second interspaces, below the outer third of the clavicle. It spread downward, and an oval portion of lung was involved. The middle lobe was rarely primarily affected. The next point at which the disease showed itself was situated in the apex of the lower lobe of the side primarily affected. The disease occurred here early, long before there was extensive disease at the apex of the lung. It was possible that there was special vulnerability at these two points, the apices of the upper and lower lobes. This secondary lesion was situated about an inch and a half below the upper and posterior extremity of the lower lobe, and about the same distance from its posterior border, which corresponded on the chest-wall to a point situated midway between the fifth dorsal spine and the border of the scapula; from this focus the disease spread along the interlobar septum. A rough surface mark of this line of invasion was obtained by making the patient place his hand upon the opposite shoulder, when the vertebral border of the scapula in its new position would indicate approximately the line of the disease. Tubercles next appeared at the apex of the lung heretofore free, and next at the apex of its lower lobe.

As regarded the exceptional cases where the base was first attacked, the reader inclined to the theory that such cases were not really basic phthisis, but were the outcome of some non-tubercular affection which had weakened this part of the lung and left therein a suitable nidus for the bacillus.

Wound of the Scrotum with Protrusion of the Testis.—Dr. J. A. Hutchinson related the history of an accident which had happened to one of his patients who had been riding, when the horse had reared and fell on him. The scrotum had become crushed between the thigh and the pommel of the saddle. The pain and sickness produced had been intense. The speaker had found the man in a condition of collapse. After an anæsthetic had been administered it was found that the testis had been pushed through the scrotal tissues and protruded through a button-hole opening, which had to be enlarged so as to permit of the replacement of the viscus. The subsequent course of the case was satisfactory.

CANADIAN MEDICAL ASSOCIATION.

Twenty-third Annual Meeting, held at Toronto, September 9, 10, and 11, 1890.

(Concluded from page 358.)

Spinal Syphilis.—Dr. Finley, of Montreal, read a paper on this subject. Allusion was made to the various diseases of the cord following syphilis, such as locomotor ataxia, Landry's paralysis, and myelitis. Gummatous formations were next dealt with. It was pointed out that in these cases only could brilliant results be looked for from the use of antisyphilitic remedies. An early diagnosis was essential for successful treatment, before destruction of the nerve tissue had occurred. Permanent damage not infrequently was a result of disease in this region, and in certain cases remedies had but little effect. Three cases were reported illustrating different phases of the disease.

The first was that of a female, aged thirty-four, who had previously been under treatment for headaches, and who had presented syphilitic scars, was seen in January, 1889, with an ataxic gait, weakness of the legs, girdle sensations, and irregularly distributed areas of hyperæsthesia and anæsthesia on the trunk and legs. She had also had formication in the legs and occasional incontinence of urine. Under the influence of mercurial inunctions and iodide of potassium these symptoms had completely disappeared, with the exception of the girdle sensation. In this case it was believed that a gumma pressed on the cord, and that the ataxia was due to involvement of the posterior columns. The iris reflexes were normal and there was no change in the optic discs.

A second case occurred in a man aged twenty-three, who had acquired syphilis three years previously. Pains and weakness in all the limbs had come on within a fortnight. There were weakness of all the limbs, a girdle sensation, and anæsthesia of the greater part of the trunk and limbs to touch and pain. With the same treatment the sensory symptoms had disappeared, but the paresis still persisted. A subacute diffuse myelitis had probably existed which was not greatly influenced by treatment. The rapid disappearance of the sensory symptoms might be accounted for by disappearance of an accompanying gummatous outbreak.

The third case, in a man aged thirty-four, was also a myelitis, and was chiefly interesting as coming on within eight months of acquiring primary syphilis, and was followed shortly afterward with a right-sided hemiplegia due to thrombosis.

Pernicious Anæmia.—The paper of Dr. A. McPhedran, of Toronto, contained the histories of five cases of pernicious anæmia which he had had under observation. In the first case there were delirium, high temperature, chills, and gastro-intestinal disturbance. The red blood-corpuscles were typical—731,000 to the cmm. Arsenious acid to the extent of a quarter of a grain a day was taken for two months. Recovery was complete in seven or eight months. In his second case the symptoms were moderate—606,000 corpuscles to the cmm. The administration of arsenic had to be suspended every few days on account of epigastric pain, and in four months was stopped altogether, when the corpuscles had reached 2,600,000. Recovery was complete in ten months. In the third case the disease was followed by parturition and was not very severe. Insanitary surroundings were a probable cause. In six months recovery was complete. The fourth case was complicated by la grippe, and in its main features simulated malignant disease of the stomach. Arsenic, even in minute doses, could not be tolerated. No improvement as yet. In the fifth case there appeared to have been a previous attack, the same symptoms having been present two years previously. This patient was now taking arsenic and making considerable progress toward recovery.

In all five cases there was gastro-intestinal disturbance, with high-colored acid urine, not increased in volume, and of low specific gravity. These characters were specially marked during exacerbations of the disease, when in one case (the fourth) renal casts were found. These had contained much pigment, as well as yellowish pigment masses which had disappeared as the exacerbation passed off. No microscopic examination was made in the first three cases, and no pigment was found in the urine in the fifth case, but the patient had had no paroxysm of the disease since he came under observation.

The works of Hunter, Mott, and others showed that the disease was characterized by excessive hæmolysis occurring in the portal system, due probably to some poison, possibly a ptomaine or some of the many organic compounds that might be absorbed from the intestinal tract. The treatment advised consisted essentially in intestinal disinfection—thymol, β-naphthol, and naphthalin being the most effective agents. The administration of arsenic in minute doses at short intervals, and a diet of the hæmatogenous foods, were also recommended.

Hemiatrophy of the Tongue of Peripheral Origin.—In the course of a paper upon this subject Dr. H. S. Birkett, of Montreal, related the history of a male patient, aged twenty-three, who, on examination, had presented the following conditions: The right half of the tongue was markedly atrophied, but tactile sense and the sense of taste were not impaired. The right side of the soft palate was paralyzed, and sensation was diminished in the buccal mucous membrane and the naso-pharynx. Adduction and abduction of the right vocal cord were very limited. There was persistent myosis of the right pupil. There was a thickened and infiltrated area, situated on the right side of the neck, just in front of the anterior border of the sterno-mastoid muscle, and at a level of a line drawn backward from the angle of the lower jaw on the same side, pressure on which produced flushing and sweating of the right side of the face, with dryness of the throat, which all passed off when the pressure was removed. There was never any difficulty in deglutition, but speech was at first interfered with, especially for words containing the letter " r "; pulse, 98. Physical signs negative. The nerves involved were the hypoglossal, the vagus, accessory, the branches of the pharyngeal plexus, and the superior cervical ganglion of the sympathetic. These nerves appeared to have been involved in a large and painful swelling at the angle of the lower jaw on the right side, which had come on during convalescence from an attack of mumps nine years ago. The speaker's deductions were as follows: 1. The hypoglossal was the motor and trophic nerve of the tongue. 2. The glossopharyngeal nerve was concerned in the function of taste. 3. The branches of the pharyngeal plexus supplied the mucous membrane of the buccal and nasal pharynx with sensation. 4. That the motor nerve of the levator palati and azygos uvulæ muscles was probably the accessorius. 5. That the superior cervical ganglion of the sympathetic contained (*a*) dilator fibers to the iris of the same side, (*b*) vaso-motor, (*c*) sweat, and (*d*) special secreting nerve fibers.

Peri-urethral Cellulitis.—Sir James Grant, of Ottawa, narrated the history of the case of a man, aged forty, who had suffered from an extravasation of urine in 1879. He had previously developed a stricture following a gonorrhœa. A large portion of the integument of the scrotum had sloughed in consequence of the extravasation, and a fistulous opening had remained in the perinæum, leading down to the membranous urethra, through which urine had flowed freely. The parts had granulated readily. An attempt was made to pass a catheter into the bladder by the urethra, and this had rather unexpectedly succeeded. The catheter was secured in the bladder and left *in situ* for three days, during which time the urine had flowed freely through the instrument, none escaping through the perineal fistula. At the end of the third day the catheter was removed and the urine had subsequently flowed through the natural channel; healing had rapidly occurred in the perinæum. The case was cited to demonstrate the marvelous reparative power of granulation tissue even under the most adverse circumstances.

Dr. Shepherd did not think that three days was sufficient time for healing by granulation to take place in an old-standing fistula, although it might occur in a recent case. He considered Dr. Grant very fortunate in the result he had obtained.

Cholecystotomy.—Dr. Shepherd, of Montreal, read a paper on this subject. After giving a short account of the history of the operation, he stated that, although it was frequently performed in Europe, it had been but seldom performed in America. The difficulties of the operation varied greatly in different cases. When the gall-bladder was distended and could be brought up to the abdominal walls the operation was comparatively easy; but when the gall-bladder was shrunken and small or altered by the products of inflammation, the operation of cholecystotomy might become one of the most difficult in surgery. He also spoke of the great difficulty of diagnosis of gall-stones in some cases, and how, until an exploratory operation was performed, no positive diagnosis could be given. He gave the history of a case in which he had performed the operation and in which the diagnosis was very obscure: The patient, a lady aged fifty-one, had been in failing health for a year, suffering from pain in the epigastrium and great discomfort after eating. Six weeks before consulting Dr. Shepherd she had been suddenly seized with a severe pain in the abdomen, with incessant vomiting and great tenderness; there had also been elevation of temperature. Her medical attendant had now for the first time discovered a tumor to the right of the umbilicus, which was tender on pressure and freely movable. During the next few weeks the patient had had several similar attacks, and since the first attack had never been free from pain and discomfort about the abdomen, especially after eating or moving about much. When the speaker first saw her there was a well-defined tumor of about the size of a fœtal head to the right of and beneath the umbilicus; it was smooth on the surface, but deeper down was hard and irregular; it was freely movable, dull on percussion, and tender to the touch. After a careful examination of the case and consultation with colleagues, it was thought probable the case was one of malignant disease of the bowel, and an exploratory incision was advised and consented to. On opening the peritoneal cavity in the median line over the tumor, an elongated portion of liver was first met with, and beneath this a large, hard, nodular mass covered by omentum and bowel. The gall-bladder could not be found, so the liver was carefully separated from this mass, and, although there was free hæmorrhage, the connection was not very firm. A gush of fluid from the tumor had disclosed a small cavity in which were situated two large gall-stones joined together; these were extracted and the finger pushed in through a constriction into a space in which was another large stone, which was with difficulty removed. The edges of the cavity which contained the gall-stones consisted of inflammatory tissue, and were so friable that they could not be brought to the abdominal parietes. However, the space between the abdominal walls and altered gall-bladder was filled in by omentum and a portion of the elongated liver lobe. A rubber drain was introduced into the bottom of the cavity, the liver replaced, and the abdominal wound closed. The patient rallied well from the operation and had no vomiting; the temperature was normal throughout. For some days there was a profuse discharge of bile through the tube, but this had ceased altogether on the fifteenth day after operation. The patient was out driving daily in the second week, and went home in less than a month without any sinus, and feeling better than she had for years.

The speaker drew attention to the fact that even after the abdomen was opened it was a difficult thing to say whether the tumor consisted of new growth or inflammatory tissue; the gall-bladder was so altered as to be unrecognizable. In this case the elongated portion of liver represented what had been called the lacing lobe, the lacing furrow being over the region of the cystic duct and neck of the gall-bladder; pressure here caused stagnation of bile and the formation of gall-stones. The writer concluded by saying that the result in his case pointed strongly to the advantage of exploratory incision in doubtful and apparently hopeless cases.

Dr. Chown, of Winnipeg, in discussing Dr. Shepherd's paper, mentioned a case of long-standing jaundice where an exploratory incision was made. The pancreas was irregularly enlarged and was occluding the common bile duct by direct pressure. The gall-bladder was pushed to the right of the tumor. The central incision was closed and a second one made over the gall-bladder on the right. The bladder was stitched to the edges of the incision and opened, when bile escaped. Six weeks had now passed since the operation, and the patient continued to pass all the bile through the fistulous opening. The jaundice had disappeared, but there was no change in the tumor.

Appendicitis.—Dr. George Armstrong, of Montreal, read a paper upon this subject, dealing especially with the important question as to the time at which an operation should be performed. He urged upon all practitioners to bring forward and publish their cases, both successful and unsuccessful, in order that we might be placed in a position to decide upon an established procedure, and he assumed that on the following points all were agreed: 1. That the cæcum and appendix were entirely surrounded by serous membrane and were intraperitoneal. 2. Primary infiltration of cellular tissue in the right iliac fossa was unknown. 3. There was no evidence of the existence of an infiltration of the walls of the cæcum other than that caused by a catarrhal infiltration or ulceration of its mucous membrane, the most common forms of ulcer being stercoral, typhoid, tubercular, and perhaps syphilitic. 4. The symptoms of a catarrhal infiltration of the mucous membrane of the cæcum were those of a colitis rather than typhlitis, and ulceration of the cæcum did not give rise to symptoms of typhlitis unless the peritoneal covering became involved.

The reader dwelt upon the importance of early recognition of the disease, and upon the fact that every one of the symptoms might be very slight. A little pain on pressure might be the only symptom present to indicate the presence of a pint of stinking pus. A case was cited, that of a girl of twenty-one, in whom the symptoms had been very mild and there had been apparent improvement until the fifth day of the illness, when symptoms of general peritonitis had been observed. Abdominal section had been performed. The appendix had been found to be perforated. The patient had died a few hours afterward.

In a second group of cases the inflamed appendix was completely surrounded by the products of inflammation, so that further changes in the tissue were prevented from contaminating the general peritonæum, at least for a time. In such cases the use of an exploring needle had been recommended, but the speaker had had little experience of its use. A distended gut could not be pierced with impunity. With regard to medical treatment, the amount of opium used should be the smallest quantity that would insure a fair degree of comfort to the patient, lest the symptoms be masked and the true condition of affairs not be rendered evident to the friends of the patient. Purgatives should be avoided. A mild enema was all that could safely be used. Under such treatment recovery might ensue. It was probable that merely a catarrhal appendicitis had been present. But apparent recovery was no certain indication that the appendix was whole, and in proof of this a case was cited where, after complete recovery, a second peritonitis had occurred. Here the abdomen had been opened and a quantity of pus removed, the patient making a complete recovery. In a third case the appendix was removed successfully during the period of quiescence. The paper was brought to a close by an earnest appeal for early operation.

Book Notices.

Familiar Forms of Nervous Disease. By M. Allen Starr M. D., Ph. D., Professor of Diseases of the Mind and Nervous System, College of Physicians and Surgeons, New York. With Illustrative Diagrams and Charts. New York: William Wood & Co., 1890. Pp. xii–339.

This is a most practical book and one of great value to the student and general practitioner. Chapters of interest and moment are by Dr. Frederick Peterson, Dr. Walter Vought, Dr. Winslow W. Skinner, Dr. Edwin Swift, and Dr. M. L. Goodkind. Thus it will be perceived that to the author's trained comprehension of his subject are added the earnest thoughts and conclusions of other well-endowed medical observers. There is not a word too much in the entire work. Dr. Starr's command of English is especially felicitous, and his style forcible and clear—qualities of great importance in the exposition of nervous disease. The chapters on localization, cerebral function, and the motor area are instructive to a degree. Whoever reads, learns, marks, and inwardly digests this book will recognize familiar forms of nervous disease and know how to treat them within given limits.

Les anesthésiques: physiologie et applications chirurgicales. Par A. Dastre, professeur de physiologie à la Sorbonne. Paris: G. Masson, 1890. Pp. xi–306. [Prix, 5 fr.]

In this work an attempt is made to survey the field of anæsthetics critically and analytically, and from a brief reference to ancient anæsthetics—including, of course, a reference to that French pioneer in scientific discoveries, Denis Papin—the author reviews the history of the discovery of laughing-gas, ether, and chloroform. These common anæsthetics are then taken up and considered at length, physiologically and therapeutically. Chapters are devoted to chloral, bromide of ethyl, chloride of methylene, the chloride, acetate, and benzoate of ethyl, amylene, and methyl chloroform, cocaine, mixed anæsthesia, and local anæsthesia.

We note that the chapters on chloroform were written before the report of the Hyderabad commission was published, and the author's conclusions regarding the toxic effect of chloroform are directly opposite to the results obtained by that body. In summing up between ether and chloroform, he concludes that the former should be given when the condition of the patient or other causes presage the possibility of secondary syncope, or when a lesion of the right heart consequent upon chronic lung disease exists. But in prolonged operations, in cases of lesion of the left heart, and, lastly, in children, chloroform is preferable. We can commend the volume to all desirous of information regarding the various anæsthetics.

BOOKS AND PAMPHLETS RECEIVED.

A Text-book of Comparative Physiology for Students and Practitioners of Comparative (Veterinary) Medicine. By Wesley Mills, M. A., M. D., D. V. S., Professor of Physiology in the Faculty of Human Medicine and the Faculty of Comparative Medicine and Veterinary Science of McGill University, Montreal. With 476 Illustrations. New York: D. Appleton & Company, 1890. Pp. xix–636. [Price, $3.]

The Philosophy of Tumor Disease: a Research for Principles of its Treatment. By C. Pitfield Mitchell, Member of the Royal College of Surgeons, England. London: Williams & Norgate, 1890. Pp. xi–3 to 263.

The Science and Art of Obstetrics. By Theophilus Parvin, M. D., LL. D., Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia. Second Edition, revised and enlarged. Illustrated with Two Hundred and Thirty-nine Woodcuts and a Colored Plate. Philadelphia: Lea Brothers & Co., 1890. Pp. xv–21 to 704.

Influenza or Epidemic Catarrhal Fever: An Historical Survey of Past Epidemics in Great Britain from 1510 to 1890. Being a New and Revised Edition of "Annals of Influenza," by Theophilus Thompson, M. D., F. R. C. P., F. R. S. By E. Symes Thompson, M. D., F. R. C. P., etc., Brompton. London: Percival & Co., 1890. Pp. xv–490. [Price, 21 shillings.]

Transactions of the Royal Academy of Medicine in Ireland. Vol. VII. Edited by William Thomson, M. A., F. R. C. S., etc. Dublin: Fannin & Company, 1889. Pp. xxxix–402.

Hypodermic Medication in Diseases of the Eye. By Charles J. Lundy, A. M., M. D., Detroit.

Diphtheria, Follicular Tonsillitis, and Membranous Sore Throat, and their Relations to each other, with Cases. By O. T. Osborne, M. D., New Haven, Conn. [Reprinted from the *Proceedings of the Connecticut Medical Society.*]

On the Radical Cure of Hernia, with Results of One Hundred and Thirty-four Operations. By William T. Bull, M. D., New York. [Reprinted from the *Medical News.*]

Deformity from Prominent Ears cured by a New Method of Operating. By W. W. Keen, M. D., Philadelphia. [Reprinted from the *Transactions of the Philadelphia County Medical Society.*]

Two Suggestions in Surgical Technique. I. A New Method of compressing the Subclavian Artery. II. A New Method of ascertaining whether the Bladder is or is not Ruptured. By W. W. Keen, M. D., Philadelphia. [Reprinted from the *Transactions of the Philadelphia County Medical Society.*]

Dupuytren's Finger Contraction. Operation by Removal of the Contracting Band by Open Wound. Immediate Cure without Reaction or Pain. By W. W. Keen, M. D., Philadelphia. [Reprinted from the *Transactions of the Philadelphia County Medical Society.*]

Longevity and Climate. Relations of Climatic Conditions to Longevity, History, and Religion. Relations of Climate to National and Personal Habits. The Climate of California and its Effects in Relation to Longevity. By P. C. Remondino, M. D., San Diego.

De la laryngite tuberculeuse à forme scléreuse et végétante. Par MM. le Dr. Gouguenheim et J. Glover. [Extrait des *Annales des maladies de l'oreille et du larynx.*]

Die Behandlung des chronischen Trachoms vermittelst der Transplantation die Schleimhaut, Conjunctiva perstica. Von K. Noiszewski. [Separat-Abdruck aus dem *Centralblatt für praktische Augenheilkunde.*]

Miscellany.

Whitehead's Operation for Hæmorrhoids.—At a recent meeting of the Philadelphia County Medical Society, Dr. Charles B. Penrose read the following paper:

My object in presenting this paper is to urge the more general use of Whitehead's operation of excision in the treatment of certain cases of hæmorrhoids.

In 1887, Mr. Whitehead, of Manchester, reported * three hundred consecutive cases of hæmorrhoids which had been successfully treated by the method of excision and suture. His operation is performed in the following manner: 1. The patient is placed on a table in the lithotomy position, with the hips well elevated. 2. The anal sphincters are then thoroughly paralyzed by digital stretching. 3. The mucous membrane of the rectum is divided at its junction with the skin around the entire circumference of the bowel. 4. The mucous membrane, with the attached hæmorrhoids, is dissected from the submucous tissue, and the cuff or cylinder thus formed is dragged below the skin margin. 5. The mucous membrane above the hæmorrhoids is then divided transversely, thus removing the pile-bearing area, and the operation is completed by suturing the upper margin of the severed membrane to the free margin of the skin.

The advantages alleged by Whitehead for this method of treatment are based on pathological and on surgical reasons. He considers that internal hæmorrhoids, which are generally regarded as localized distinct tumors, amenable to individual treatment, are, as a matter of fact, component parts of a diseased condition of the entire plexus of veins surrounding the lower rectum, each venous radicle being similarly, if not equally, affected by an initial cause, constitutional or mechanical. The operation of excision is the only one which removes this whole diseased area. It is, therefore, demanded for this pathological reason. It is in addition surgically more perfect than any other method of treatment, because it provides for the readjustment of healthy tissues with the object of securing primary union and rapid convalescence. It does not leave the sluggish ulcer of the cautery, nor is it attended with the pain and slow convalescence of the ligature.

My experience with this operation is limited to ten selected cases. Only those cases were selected in which there existed a complete circle of hæmorrhoidal tumors surrounding the lower margin of the rectum, since for such cases Whitehead's treatment of excision seems to be most particularly adapted.

The details of the operation are simple and easy to execute. In dividing the mucous membrane from the skin it is best to begin at the posterior margin of the anus in order to prevent the blood from obscuring the field of operation. No skin should be sacrificed, even though there appear to be redundant tags around the margin of the anus. The skin always retracts somewhat and the tags shrivel and disappear before firm union has taken place. Failure to observe this rule may result in subsequent serious trouble. Kelsey † reports the case of a woman who had been subjected to a so-called Whitehead operation and who presented herself to him with a complete circle of excoriated mucous membrane, extending for one inch outside the anus. It is probable that in this case the operator had sacrificed too much skin.

On the other hand, the upper section of the mucous membrane should be made in the same horizontal plane throughout, in order to prevent subsequent ectropion ani.

The dissection of the mucous membrane from the underlying tissue is exceedingly easy except in some cases of old—or long-standing—piles. The attachment of the submucous tissue is very loose, and separation can be effected with the finger or with the handle of the scalpel. It is not always possible to dissect the piles completely from the underlying structures, as they may involve not only the mucous but the submucous tissues, and in such cases it is necessary to cut partly through the piles until the healthy mucous membrane above is reached. Repeated attacks of inflammation of course render closer the adhesion of the pile area to the underlying structures. In one of my own cases, where the piles had existed for forty years, and had frequently been inflamed, the adhesions to the two sphincters were so close that a few muscular fibers were cut away during the removal.

The amount of blood lost during the operation is surprisingly small. Whitehead states that he has often operated on severe cases and not found it necessary to twist a single vessel. In five of my cases no hæmostasis was necessary. Bleeding is avoided by adhering closely to the mucous membrane in the dissection, as the larger arterioles lie beneath the submucous tissue. The arterial bleeding occurs in those cases of old piles which have been subjected to previous operation or to attacks of inflammation, and in which dilatation of the rectal and anal arteries has taken place secondary to dilatation of the hæmorrhoidal veins. The bleeding from the upper divided edge of the mucous membrane can be reduced to a minimum by following Whitehead's method of inserting the sutures as each portion is divided, or by adopting Marcy's plan of introducing a circle of shoemaker stitches of catgut around the mucous membrane above the piles before cutting the mass away.

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* *British Medical Journal*, February 6, 1887.

† *New York Medical Journal*, October 5, 1889.

Whitehead's advice is in all cases to remove the complete cylinder of mucous membrane, whether or not the whole of this area appears to be diseased. He gives this advice for the reason which I have already stated, that he considers the individual piles as but part of a general pathological condition, involving all the lower hæmorrhoidal veins of the rectum.

Whether we accept this pathological view or not, it is best to follow this plan, and to make a complete circular division of the mucous membrane, as by this method the best surgical results are obtained, and ectropion ani prevented. I have seen a case in which only one half of the circumference of the mucous membrane of the rectum was removed, and a few hours after the operation an œdematous swelling formed in the other half, which has now resulted in a hæmorrhoidal tumor almost as annoying as the one for which the operation was performed.

In attaching the mucous membrane to the skin, Whitehead uses the interrupted silk suture. He never removes the sutures, but allows them to ulcerate through—a process which is very easily accomplished. In my own cases I have used the continuous catgut suture.

The treatment of these cases after operation is very simple. It is rarely necessary to use opium or the catheter. An opium and belladonna suppository, introduced immediately after the operation, is in most cases all that is required. The bowels can be moved in from twenty-four hours to four days, and with very little pain. Absence of pain after Whitehead's operation is due to the thorough paralysis of the sphincters and to the fact that no source of irritation is left beyond that of a clean linear incision, united without tension and without strangulation of tissue.

A glance at the histories of my own cases shows that they were all cases of aggravated hæmorrhoids in which the piles covered the whole circumference of the lower part of the rectum. In all the cases the disease had existed for many years, and two had been subjected to previous operation by the ligature.

In only one case was there anything like free bleeding during the operation.

In all the cases a suppository of half a grain of extract of opium and half a grain of extract of belladonna was introduced immediately after the operation, and this was all the opium required except in three cases, in which one sixth of a grain of morphine was subsequently administered.

The catheter was used in only three cases, and in these for a period not longer than twenty-four hours. The length of time that the patient is confined to bed depends to a great degree upon his social standing and disposition. In my cases it varied from two to ten days. Every patient should be able to sit up in four or five days, and to resume work in ten days or two weeks.

The bowels were opened without pain in from twenty-four hours to four days after the operation.

No complications of any kind followed these operations. Union takes place quickly, and generally one dressing, taken off when the bowels are moved, is all that is necessary. In no case was there incontinence from paralysis of the sphincters, or any tendency to stricture, from contraction of the scar.

Since the publication of Whitehead's paper his method of operating has been tested by many surgeons. The operation can not be criticised on surgical grounds, as it is certainly the most perfect plan of treatment, surgically speaking, which has been proposed.

The immediate removal of the tumors, the coaptation of healthy tissues, and primary union, are substituted for slow strangulation by the ligature, or removal by the cautery and healing by granulation.

The applicability, or the necessity, of this operation in all cases of hæmorrhoids, is, however, open to criticism. If we accept Whitehead's views in regard to the pathology of piles, and believe that the whole venous plexus surrounding the anus and the lower end of the rectum is in a pathological condition in every case of hæmorrhoids, even though there may be present only one or two isolated tumors, then, of course, the complete removal of this area is indicated.

But that this view is not true is proved by the thousands of cases which have been permanently cured by the ligature and the clamp. The method, however, is indicated in all cases of aggravated hæmorrhoids where the vascular tumors cover the whole or the greater part of the circumference of the bowel. In such cases the operation presents no great difficulties. Statistics show that it is at least as safe as operation by the ligature or the clamp, and it is certainly followed by a more rapid convalescence, and much less pain and discomfort.

Pulmonary Consumption and the Board of Health.—*An Open Letter to the Board.*—GENTLEMEN: The Board of Health has seen fit to issue rules to be observed for the prevention of the spread of consumption. If this proclamation had been intended for the medical profession it might be looked upon as harmless, but the nine commandments are distinctly addressed to the public at large.

The chief points in this remarkable document may be summed up as follows:

1. "Consumptives are respectfully requested not to spit on the floor or on cloths, but into a solution of corrosive sublimate."

This is laudable as far as it goes.

2. "Do not sleep in a room occupied by a person who has consumption. The living-room of a consumptive patient should have as little furniture as practicable. Hangings should be especially avoided. The use of carpets and rugs ought always to be avoided."

This is cheerful, to say the least.

3. "Do not fail to wash thoroughly the eating-utensils of a person who has consumption as soon after eating as possible, using boiling water for the purpose."

The effect of this is to make it painfully plain to the patient that he is an outcast and an object of well-merited disgust.

4. "Do not mingle the unwashed clothing of a consumptive person with similar clothing of other persons. The soiled clothing of a consumptive person should be removed at once, put in boiling water for forty-five minutes, or otherwise disinfected."

In other words, the family of the patient are told to look upon him as a leper. This, too, is refreshing.

5. "Do not fail to catch the bowel discharges of a consumptive person with diarrhœa in a vessel containing corrosive sublimate one grain to water one pint."

This paragraph is commendable on the grounds of common decency.

8. "Household pets (animals or birds) are quite susceptible to tuberculosis; therefore,

"Do not expose them to persons afflicted with consumption; also, do not keep, but destroy at once, all household pets suspected of having consumption, otherwise they may give it to human beings."

This is laughable, because it is not true. It is the comedy part of this otherwise very serious melodrama.

Before submitting to your honorable Board a few questions, let me say that I am far from believing that in issuing this remarkable document you were actuated by other than the best of motives. And now will you kindly tell me—

1. Do you not know that there are many forms of so-called consumption, ranging from pleuritic adhesions, peribronchitis, and other connective-tissue processes to suppurative conditions and the invasion of the tubercle bacillus? Do you not know that all of these conditions are accompanied by more or less cough and expectoration—an expectoration free from the much-dreaded bacillus in over seventy per cent. of all cases of so-called consumption?

2. And if you did know it, how came you to address a circular to

the general public advising them to shun as nuisances all persons who cough and expectorate?

3. Upon what evidence do you base your belief that it is dangerous to sleep in the same room with any one "suspected" of being a consumptive?

4. Who told you that the clothing of a consumptive—let it be a bacillus consumptive this time—was a source of infection to persons in good health?

5. How in the world did you learn that even the tubercle bacillus itself ever infected any one except by direct inoculation? You will tell me it is a fair inference. I know that. An inference is on a par with a possibility, a possibility is not a probability, and even a probability is several removes from a fact.

Laboratory experiments have produced tubercular consumption by artificial inoculation in animals, not in man. If you want to find out that clinical experience does not justify you in assuming that consumption—not even tubercular consumption—is contagious, be good enough to consult the *Transactions of the Medical Society of the State of Pennsylvania* (June, 1890), and look for the Address in Hygiene, by Thomas J. Mays, M. D., of Philadelphia. On page 8 of the reprint of this excellent address you will find this: "Now, in converging the evidence of the two sides of this question, there appears to be an irreconcilable contradiction. The experimental testimony points decidedly toward contagion, while the clinical testimony just as decidedly opposes such an opinion. It must be remembered, however, that the first kind of evidence pertains only to experiments on the lower animals, and, in so far as it applies to the human body, rests entirely on a theoretical basis." And again: "All that they (the experiments) show is that the disease may be transplanted by a certain method, after it has been called into existence by other causes."*

Again I quote from page 10 of the same pamphlet: "Take away the inoculation experiments on animals and you destroy the cornerstone on which those who believe in the communication of consumption from man to man repose their belief."

And on page 11: "Moreover, the contagiousness of consumption is an old idea, and all the measures of prevention which are receiving serious consideration from those who believe in it at the present time were tested *with disastrous results* by the inhabitants of Naples more than a hundred years ago. They reasoned as follows: If consumption is contagious, then the separation of the afflicted from the well is the only logical remedy; and for sixty-six years—from 1782 to 1848—they enacted and enforced the most rigorous laws that have ever been introduced for the suppression of any disease."

What you have published as a well-intended warning to the public will do no good, but a great deal of mischief. So far as the public is concerned, it will create a far-reaching and permanent panic in the minds of people who were well and happy before they read your untimely announcement. A family with consumption in its midst will be shunned. So far as the sufferers from chronic coughs are concerned—and your circular includes all of them under the heading of "suspected"—they will be regarded as a public pest, and will be forced to undergo a degree of social ostracism hitherto experienced only by the victims of leprosy.

In conclusion, I can not withhold an opinion shared by many of my colleagues, and it is this: It strikes me that occasional petty tortures are invented by the Board of Health for lack of something else to do.

All of which is respectfully submitted.

J. Hilgard Tyndale, M. D.

Thunder and Sour Milk.—"The effect of thunder-storms in turning milk sour is a matter of constant observation in every household. It is not certainly known to what element in the air this souring action on milk is to be directly attributed, and most people are content to ascribe it to 'electricity in the air.' An Italian *savant*, Professor G. Tolomei, has lately made some experiments with the view of elucidating this question. He found that the passage of an electric current directly through the milk not only did not hasten, but actually delayed acidulation, milk so treated not becoming sour until from the sixth to the ninth day, whereas milk not so electrified became markedly acid on the third day. When, however, the surface of a quantity of milk was brought close under the two balls of a Holtz machine the milk soon became sour, and this effect he attributes to the ozone generated, for when the discharge was silent the milk soured with greater rapidity than when the discharge was explosive, in the former case more ozone being formed than in the latter. The souring of milk is generally attributed to the growth of a ferment (bacterium), which converts the milk sugar into lactic acid. It is possible, then, that the presence of ozone in the air overlying the milk hastens the growth and multiplication of the bacterium. The first observation—namely, the retardation of souring by the passage of a current through the milk—may be a point of practical importance to milk traders. Any methods of preserving milk from its first retrogressive changes, which does not involve the addition of extraneous substances (antiseptics) to the milk, and which is at the same time cheap, effective, and not likely to prove injurious to the consumer, is sure to be welcomed at a time when milk is sent long distances to market, and is often stored for a considerable time before it reaches the consumer."—*British Medical Journal.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

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* *Deutsche Medizinal-Zeitung*, April 3, 7, 10, and 14, 1890.

THE NEW YORK MEDICAL JOURNAL, October 18, 1890.

Lectures and Addresses.

DIATHESIS AND CACHEXIA.

A CLINICAL LECTURE,
DELIVERED AT THE PHILADELPHIA HOSPITAL.

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Lecture III.

Reported by WILLIAM BLAIR STEWART, M. D.

There are two words—diathesis and cachexia—which are used frequently by all of us, which for a long time represented something that was very obscure to our minds; it is often several years before an accurate knowledge of these two terms is attained by the average medical student. Although not defined in the same way by all medical authorities, it is well to have a definite idea of every subject about which we talk. It may be that in time what we talk about now will be modified somewhat.

Therefore, from the very first, the meaning of diathesis is an inherited condition or predisposition to get a disease, while a cachexia is an acquired condition when the body has ceased to be in its normal state by having passed through some pathological condition. We speak of the malarial cachexia in a person who, once perfectly well, had malaria, but who recovered with the malarial appearance remaining. A child born of tuberculous parents, coming into the world with its physiological condition below par, is born with the tubercular diathesis. From time immemorial it was evident that parentage had something to do with health and disease. Such is the case among animals that are affected according to the condition of their parents or species. Since that is the case in lower animals, how much more forcibly must this be in man! In fact, civilization is to man what domestication is to animals. Having drawn clear lines of distinction between diathesis and cachexia, and having a positive notion on this subject, let me clear up, as far as is in my power to do, those points that are not clear in your mind.

The word diathesis you hear indiscriminately used in connection with scrofulosis and tuberculosis. A child is born of tuberculous parents. The child need not have any evidence of the actual existence of tuberculosis in his system. This fair-haired, bright-skinned, blue-eyed child, the wonder of the neighborhood, who is not strong, grows in a puny condition, has a delicate appetite, grows with other children—this child has a tuberculous diathesis, and is only waiting to develop tuberculosis when a favorable opportunity presents itself. Two children fall and each receives an injury. The one is laid up for one or two days and is all right again. The other, our fair-haired child, from the injury to its knee develops tuberculosis in that joint. Both of these children from birth had been breathing the germs of tuberculosis, and were apparently none the worse for it, but both fell and received a contusion in the knee joint. One recovered. This fall formed that unknown something that was wanting to develop tuberculosis in the fair-haired child, otherwise it would have developed the same in the other. What do we understand when we say a child has scrofula? A child suffering with scrofula has tuberculosis of the lymphatic glands. From the time the glands begin to manifest themselves by enlargement they are tuberculous and the bacilli are growing there. White swelling is tuberculosis of the knee joint. There are no reliable cases on record to warrant the fact that a child has been born with fully developed tuberculosis in its system. A child is born with the tubercular diathesis, and, sooner or later, develops tuberculosis, manifesting itself either in the glands as scrofulosis; in the meninges of the brain as tuberculous meningitis, or abscesses of different kinds; or, later in life, tuberculosis of the lungs, the most fatal form. All these are acquired because the child has been born with the tuberculous diathesis.

There are many among us who, if they lived up to the laws of hygiene, would not become tuberculous; but there are few of us who, if imprisoned in a damp place, with improper food and poor light, would resist the germs of tuberculosis that we now breathe with impunity. It is not possible for us to acquire tuberculosis until we acquire a condition suitable to it, and that condition is cachexia. Leaving tuberculosis, we take up syphilis; that is an affection in which a diathesis appears, but, unlike tuberculosis, the child may be born with the affection fully developed. Cancer is exactly in the same state as syphilis, for children are born with fully developed cancer in the mesentery. Most of the affections that we acquire, such as small-pox, syphilis, etc.—all diseases that start as cachexia—may manifest themselves as diatheses in our children. Here is a person in perfect health who acquires tuberculosis; he has the cachexia, but will give the diathesis to his children. That point being established, let us see what can be done from a remedial standpoint.

The question that naturally presents itself is, What is the difference between a person who has the tubercular diathesis and one who has not? It is purely a chemical difference, modified by temperature, possibly. Since we know that tuberculosis is due to a peculiar seed (the *Bacillus tuberculosis*) that, falling on suitable ground, develops, so I tell you the reason it will not develop in that soil—a healthy man—is that the soil is unsuited to it. The only difference between the two is in the soil, and that difference is of a chemical nature. Plant a seed in one soil and it grows. Plant it in another and it will not grow. In the one soil there is more of this salt or another, and hence the reason for growth is that the soil is chemically suited to it. So in the body there is a chemical difference in the albuminoids that is not appreciable to us. Gentlemen, remember that this is no hypothesis and we are not guessing at it, but what I have said can be as clearly demonstrated as two and two are four. Pasteur, a man of deep thought and research in bacteriology, took agar-agar, a medium in which to cultivate germs, and added four per cent. of glycerin to it and found that the *Bacillus tuberculosis* grew beautifully, showing that it was a suited soil. He took the same agar-agar, under the same conditions, and added eight per cent. of glycerin, and the germs would not grow in it any more than they would on this table. The two-per-cent. solution represents the child with the tubercular diathesis, while the eight-per-cent. solution represents us in whom the germs would not grow. Therefore remember these things are not spoken to you as they might have been twenty years ago, for all this can be demonstrated in a pathological laboratory. This example took place in a prepared test tube, and if it takes place here under favorable conditions of temperature and moisture, will not the same thing take place in the body? The germs of disease are different, just as the seeds of grain; and diseases are different, just as the causes that produce them. To illustrate, let me relate an incident that occurred in Paris a few years ago.

Pasteur had found a method of inoculation against splenic fever in sheep. He found that the disease would not attack fowls, but it would man. He found that when the germs were grown at the degree of temperature corresponding to the temperature of man (98·5° F.) and cattle, it was very deadly; but if raised three degrees higher, it became innocent. Then it struck him to investigate the temperature of the fowl that was 101° F. Thinking this high temperature to be the cause of his failure, he put the fowl in cold water until its temperature fell to 98·5° F., and then introduced the germ. It grew and killed the fowl, whereas before it was inert. This illustrates that temperature predisposes to disease. Two men go out hunting; their temperature is lowered; the one gets pneumonia and the other does not, because he is hearty and strong and perhaps suffered no disturbance in the body temperature.

The first one who directed our minds toward a rational treatment was Jenner, who observed the facts that led us to vaccination. What is vaccination? It is the introduction of a certain amount of chemical substance or living substance that develops in the body, and alters the chemistry of the body so that the person will not develop the disease that he would have taken otherwise. That being the case, what a great field lies before us, seeing that these affections are due to living organisms that develop and may be prevented by altering the chemical condition of the soil! What great opportunities are given to the investigation of the growth and development of germs! But, when the ways of each of these germs come to be understood; the nature of the soil and how to alter it to prevent it from growing germs—pathological germs; then will the vision of Mirza be a dream indeed. Instead of seventy arches with innumerable pitfalls and broken columns to entrap man on his way through life, there will be one hundred perfect arches over which man will travel happy and healthy to the Elysian fields beyond.

Gangrene.—The cases that I shall bring before you this morning are cases of gangrene. Gangrene is always due to some trouble in the circulation, and may be arterial, venous, or both. Arterial obstruction causes dry gangrene; venous obstruction causes moist gangrene; when due to both, we have capillary gangrene, that comes from severe bruises, old age, diseased arteries, or ergot and allied drugs. The first patient is this old woman, suffering with senile gangrene, due to the fact that her heart is too weak to carry the blood to her extremities. A few days ago I outlined on her foot, with ink, the limit between the healthy and diseased tissue, and in three days the gangrene had spread beyond this line. In a condition of this kind, where septicæmia has started, it is best to amputate far away from the diseased tissue, if the patient can stand it. I think it would be safe to amputate in this case just below the knee. Her condition was explained to her, but she refused to have any operation done, and, as a consequence, she is now laboring under a septic pneumonia from septic absorption. I think now it would be too late to operate, but, if she would consent, it would be well to do so to give her a chance for life. Gangrene starts from a cessation of the flow of blood to a part, and a focus of decomposition is started. The black condition is due to fermentation and decomposition from the presence of germs. The smell is due to sulphureted hydrogen and carbon-dioxide gas coming from the decomposing parts.

Here is another patient that had gangrene when she came into the hospital. She had a hard fall on her buttock and the parts around the anus were very much contused and the blood supply was impaired. As a consequence, there was a sloughing, which is nothing but a condition of gangrene. The spot is limited to the extent of the injury. When this slough comes off it is called *sphacelus.* Here are healthy granulations forming, and, to facilitate the process of healing, a few sutures will be put in to draw the parts together.

The next patient is the one that I brought before you at another time when I spoke of the metastasis of cancer. I bring him in to show another case of gangrene and to operate on him. He is a young man, and we will make an effort to destroy the cancerous process if possible. You notice the gangrenous spots around this cancerous ulcer on his thigh that are due to the poison that is developing and interfering with the circulation, just as ergot, carbolic acid, and such drugs. Remember that micro-organisms may be the cause of gangrene just as they are the cause of carbuncles and anthrax. In operating on this mass, in the left groin, we must take great care not to wound the femoral artery or vein, as they will, in all probability, be exposed in cutting away this dead material. The gangrenous portions were thoroughly removed and parts dressed antiseptically. The *cure of cancer* should not be considered a hopeless aim. At the last medical congress, held in Berlin, six cases of cure of epithelioma were reported. About twenty years ago a French surgeon had a case of cancer of the breast in which he neglected to operate. As he was not cleanly and did not believe in the modern ways of treatment, the patient got erysipelas in her breast and nearly died. Fortunately, she recovered, but was seized with another attack. The cancerous growth assumed a benign appearance and an entire recovery resulted. Two surgeons in Berlin prepared pure cultures of the germs of erysipelas and inoculated a number of cancerous patients with the pure culture, and, as a result, they report the cure of six patients that were undoubtedly laboring under the cancerous process. This opens up to us a new field in the cure of cancer.

Original Communications.

A NEW THEORY ABOUT TEMPERAMENTS.*

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Great importance was attached by the ancients to the study of temperaments. In this connection it is well to observe that certain schools distinguished in special form four principal temperaments more or less susceptible of affiliation, viz., "the sanguine, the nervous, the bilious, and the lymphatic." Nowadays—while recognizing that the physiological basis varies with individuals, as is shown by the unequal distribution of maladies, or, in other words, the differences of susceptibility to infection—sufficient importance does not seem to be attached to what was formerly designated as "the composition of humors."

Were it, nevertheless, demonstrated that a difference in composition, however slight, was capable of preventing the development of certain ailments, and were it possible for the medical man to bring about such a modification in the quality of the humors of the human body, or, to use a more modern phraseology, in the chemical composition of the center of development of the germs of these ailments, would it not be of advantage in a great number of cases to know in a temperament—*i. e.*, from this our special point of view—the "composition" of a patient?

More remains to be said on this score, for if, in a curative sense, this knowledge could be utilized, how much more valuable would it not be in the preventive sense? The knowledge of a temperament once acquired, notably by the study of its ancestry—for, in my opinion, the human body inherits to a large extent the basis from which a malady takes its development rather than the malady itself—a temperament, I repeat, having been once determined, would it not be possible by an appropriately specified diet to prevent the growth of cancer, of tuberculosis, of nervous ailments, of acute or chronic rheumatism, and so forth?

Recent studies made in connection with infectious germs enable one to answer this question in the affirmative. Do we not know, for instance, that an infinitesimal proportion of chloride of silver is sufficient to check the development of certain inferior organisms (Raulin), that glycerin introduced into a culture medium otherwise inert renders it capable of giving nourishment to the *Bacillus tuberculosis* (Roux and Nocard)? Do we not, moreover, know that when we have neglected to slightly alkalinize, or at least to neutralize, an acid culture medium, the majority of pathogenic microbes decline to develop, even when but traces of acidity exist?

If it needs so little to cause an inert medium to become unfit for the development of infectious germs, what may we not expect from our cellular tissues, which are struggling actively, and I venture to say intelligently, for the preservation of their collective existence which constitutes our own as a whole?

I do not intend to dwell on this point. It is in order to place my theory on record that I make the present communication. It must necessarily be short, and I must be forgiven if what follows savors of a somewhat absolute form. I must, however, state that for the time being I merely submit my theory as a simple hypothetical one which requires confirmation, although the results obtained by me in its practical application are most satisfactory. I am fully aware that the distance between a theory of this nature and the facts to be established is great; but he who sows or plants must not look for a crop the next day.

Numerous observations made upon my patients, and experiments made both at my clinic and in my laboratory, allow me to advance the statement that there exist three temperaments or constitutions of the animal body:

1. The alkaline temperament.
2. The acid temperament.
3. The neutral temperament.

As may be observed, I am comparing the chemical composition of the animal organism to that of all other composite bodies which we study in nature.

All substances, from a chemical standpoint, are alkaline, acid, or neutral; why should not the same hold good of those living animal substances whose functions are so varied? The blood is alkaline, and yet do not the cells of the glands, the muscles, and other tissues secrete liquids that are more or less acid according to individuals? These liquids are taken up again by the blood and eliminated by the sudoriparous glands, by the kidneys, etc., or partly deposited within the organs. But the limits of this note do not allow of my carrying this point any further.

And now let us study temperaments:

1. *The Alkaline Temperament.*—People who are possessed of this temperament are but slightly or not at all predisposed to so-called arthritic affections; they have no eczema, no psoriasis, varices but seldom, and rarely any vascular or cardiac affections. They are not subject to cancer in its various forms. Their secretions are but slightly acid and they never or seldom suffer from sourness of the stomach (pyrosis). The women are more fertile.

Rheumatism, especially in the chronic form, as well as gout, is unknown among the alkaline. On the other hand, they are apt to acquire other maladies easily, and although, in case they have the chance to live far from populous centers, they may give instances of exceptional longevity, they commonly, when living in cities, show a peculiar aptitude for the acquisition of chest troubles, and more especially of pulmonary tuberculosis. This is especially the case when their means do not allow them to "acidify" themselves by indulgence in animal food. They are also subject to all forms of tuberculosis, and notably to scrofulosis.

Among the many tubercular subjects I have examined I have as yet met with none who presented, in their personal and family history, the unmistakable signs of "acidism," which I shall describe further on. Pertinent to this, I will here state that, considering, as I do, that in animal food and moderate quantities of spirituous liquors we have a potent means toward the acidifying of tissues, I do not hesitate to affirm that, in my opinion, a vegetarian diet (which, on the other hand, tends to alkalinize), together with a complete avoidance of fermented drinks, jeopardizes the life of alkaline subjects who live in populous centers, where the germs of tuberculous contagion are so numerous.

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Among alkaline animals are the herbivora, the vaccine race especially, and it is well known how easily horned cattle become tubercular when stabled in large cities.

2. *The Acid Temperament.*—This may be observed in people who do not, any more than the alkaline subjects, present any external characteristic appearance; everything at first takes place within the body. It is but at a later period that special deformities of certain articulations, or that certain apparent cutaneous affections, may lead to their easy recognition. Yet during youth acid subjects may have facial acne. Their gastric juice is markedly acid, and more especially during adolescence they frequently complain of pyrosis. Hence, under careful hygienic direction, they are less apt than the other class, during cholera epidemics or in yellow-fever districts, to acquire these maladies; the marked acidity of their gastric juice causes the destruction of the infecting bacilli prior to their passage into the intestines.

Acid subjects are not in danger of tuberculosis or of scrofula, but, according as their peculiarity of temperament is more or less marked, they may suffer from eczema or any of the eruptions or cutaneous affections which to-day are still termed arthritic and herpetic. According to the mode of life their affections vary: the acidism may be manifested in the form of a subacute rheumatism, with repeated attacks, or of a chronic variety of this disease. A meat diet added to a liberal use of alcoholics is rapidly productive of gout in acid temperaments (more especially when exercise is not taken in order to increase the secretions) whenever heredity has, as it were, polarized the acid tendency in that direction.

It is especially among the subjects of "acidism" that we observe hæmorrhoids, varices, and the eczema of the legs which so frequently accompanies them. In these people we also find headaches (migraine) and the neuralgic affections depending upon a cellular development of the central nervous system (general paralysis, scleroses, locomotor ataxia, etc.), together with neuropathic affections, hysteria, etc.

"Acidism" would seem to develop asthma, pulmonary emphysema, chronic dry coryza, etc., in the respiratory system, while it appears to lead to aneurysms, to cerebral hæmorrhages, arterial scleroses, atheroma, angina pectoris, etc., in the circulatory apparatus.

"Acidism" constitutes a favorable soil for the development of cancer and malignant epithelial productions in general. The organs which are most frequently attacked are the stomach, a viscus whose contents are usually acid, and the uterus, which occasionally secretes an acid mucus; uterine cancer is frequently observed in nulliparæ. On the other hand, we know that acidity of the uterine mucus is a common cause of sterility.

Among the animals that are of an acid temperament we must class the carnivora (in a general manner), and particularly the dog.

It may be for this reason that the blood of this animal, when injected into the system of herbivora (which are alkaline) that have previously been inoculated with tubercular material, has appeared to retard the infection and the death of the subjects of the experiment (Richet). The dog is one of the rare domestic animals in which rheumatism may be observed.

3. *The Neutral Temperament.*—According to my theory, this would correspond to the temperate temperament of the ancients. Persons gifted with it show no marked signs belonging to the two other classes (alkaline and acid), and their state is really the normal one. They may approach either of them according to their alimentation and their mode of life. According to my observations, these people are more easily cured than the "acids" when they are attacked by certain "acidic" affections. This is equally true of the alkaline affections. This must be due to the ease with which their temperament may be modified.

Each one of these temperaments (alkaline, acid, neutral) may be met with among those whom the ancient humoralists were wont to term bilious, atrabiliary, sanguine, lymphatic, nervous, athletic, etc. These definitions describe rather the external appearance, and even the moral character, than the true temperament—that is to say, the internal constitution.

Temperaments are inherited in various degrees according to ancestors and the combinations of breeding. The marked alkaline and acid dispositions are difficult to correct and modify. The neutral, on the other hand, may be altered in either direction according to the mode of life of its possessor.

I do not wish to insist at present upon the practical deductions which may be drawn from what precedes. This will allow me to hope for a little more indulgence in case I have wandered upon a false track. It is, however, a matter that may be studied more thoroughly in time.

A CASE OF
HUTCHINSON'S "VARICELLA PRURIGO."

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In his *Clinical Lectures on Rare Skin Diseases*, Hutchinson describes, under the name of "varicella prurigo," a disease which affects infants and children, and which he maintains to be a kind of persistent chicken-pox. The process begins as a *bona fide* varicella, the fresh crops consisting of elevated, pointed papules, feeling very firm, and each surmounted by a small vesicle.

Its peculiarity consists in that the eruption, instead of disappearing in a few days, is indefinitely prolonged by the succession of fresh crops, and that the spots ulcerate and scab, sometimes becoming large sores. The eruption is accompanied by intense itching, and may last for months or years. He thinks the disease has nothing to do with vaccination, but considers it to be a true varicella.

I am not able to find anything in dermatological literature pertaining to this subject, except that Trousseau mentions an epidemic of varicella which occurred in the Necker Hospital, in which some cases lasted for six weeks, becoming ulcerative in character and resembling pemphigus. He does not, however, mention intense irritation as accompanying the disease.

Radcliffe Crocker also relates in his work the occurrence of cases similar to those described by Hutchinson.

Some months ago I treated a patient in the Outdoor Department of the New York Hospital (Dr. Bulkley's service), who presented the symptoms of the varicella prurigo of Hutchinson. The history given at the time was as follows:

M. L., two years old, had always been healthy. In May, 1889, she was vaccinated; the vaccination took, but was not followed by any eruption. Since August, 1889, she had suffered frequently from attacks of diarrhœa. In February, 1890, a rash appeared on the wrists and palms which resembled chicken-pox. Intense itching was the only subjective symptom, and there was no fever or general malaise. The mother, who brought the child to the dispensary, stated that a physician who saw the patient declared the eruption to be the "itch," while she and her friends regarded it as chicken-pox, the doctor's diagnosis seeming improbable on account of the lesions resembling those of varicella, and because the interdigital spaces were not affected. In the course of the following weeks the eruption appeared on the trunk and extremities, covered the entire scalp, and also affected the soles. As the lesions underwent involution and disappeared, they left scars.

There was no specific history obtainable.

The mother stated, furthermore, that there was a certain succession and regularity in the appearance of the symptoms, inasmuch as every new lesion began as a small, red, hard lump, on top of which a small vesicle appeared in the course of a few hours. Its contents were clear at the outset, but soon became purulent in character. About six hours after its appearance spontaneous rupture would occur, and a crust would form, which left a scar after it had fallen off. The itching was at its worst while the lump was present, and would diminish after the lesion became a pustule. Simultaneously with the appearance of the lesions there would be a swelling of the eyelids to such an extent that the eyes would be closed for a day, the lids having a purplish color. From the beginning of the trouble the hands were puffed.

Status præsens.—Child well developed, blue eyes, dark hair. Formation of the bones, head, and teeth perfect. On the face there were many small, slightly pigmented, depressed scars. On the left lower eyelid a small, fresh, umbilicated pustule was situated, and surrounded by a red areola. There were likewise a number of older lesions, formerly pustules, but now represented by crusts. On the back there were a great number of small, pigmented, brown spots, round and oval in shape, uniform in size, and some of them slightly depressed. The abdomen and chest were symmetrically affected, and likewise the extensor surfaces of the extremities. On these latter the pustular lesions and the scars already described were met with in abundance. The depression in the centers of these cicatrices was much more pronounced than in those on the back, nearly every single lesion showing it. The flexor surfaces of the extremities were normal. There were no new lesions on the scalp, the soles, or the palms, but a number of more or less pigmented scars indicated their former presence. There was nowhere any marked thickening of the skin. The hands were very much swollen and of a white color, the swelling being œdematous in nature, since it disappeared under pressure. Polyadenitis. The mucous membranes were normal. The urine was free of albumin and sugar.

At the second visit, three days later, there remained a pigmented, depressed scar on the site of the pustular lesion previously observed. On the forehead were a number of new, small, umbilicated pustules with a red areola, but not seated on an elevated base. The development of these pustules was, according to the mother, preceded by red, hard lumps, and accompanied by a swelling of the eyelids, in the same manner as had occurred in previous eruptions.

I impressed upon the mother the necessity of my seeing the lesions when they first appeared, and a few days later I was able to observe the process, so to speak, *in statu nascente.* The right eyelid was swollen. On the left side of the forehead there was a sharply circumscribed red lump, of the size of a marble, elevated about an eighth of an inch above the surface, movable, very firm, and painful to the touch. It was very similar to the lesion occurring in erythema nodosum. On top of this nodular lesion there was a small vesicle with clear contents. This later became an umbilicated pustule and subsequently a crust, which, when it fell off, left a depressed cicatrix. There was considerable itching while the lump was there. The latter disappeared as soon as the formation of the pustule occurred.

While under observation, the child had a number of similar attacks at different times of the day or night, and seemingly not brought on by any particular cause. The lesions were located on different parts of the body, and very itchy. Pigmented spots, and more or less pigmented, pitted scars, remained after their disappearance.

The internal treatment with tonics and arsenic in increased doses was of no benefit. Castor-oil relieved the diarrhœa and the offensive odor of the bowels for the time being. Local applications of soothing lotions and baths eased the little patient, but had likewise no marked effect on the disease. Although there was no indication for a specific treatment, I yet gave it with the same negative result. I was therefore not surprised that the mother ceased her visits, being disappointed by the inefficacy of the treatment.

In *résumé*, we had to deal with a chronic skin disease, manifesting itself in hard lesions, on top of which there developed, after a few hours' duration, small vesicles, which later became pustular and umbilicated, then crusting, and finally leaving a scar mostly resembling that of varicella. The eruption was an extremely itchy one, unaccompanied by any general disturbance, except the slight affection of the bowels. It avoided the flexor surfaces, but affected the soles, palms, the face, and extensor surfaces of the extremities. The primary hard lesion disappeared as soon as the bullous lesion became pustular.

These symptoms are exactly the same as those of Hutchinson's varicella prurigo. There may be a difference in the size of the initial lesion, as in the majority of his cases he states they were hard papules. Of some of them, however, he says himself they were like urticaria wheals.

What is it that made the celebrated English author call his disease varicella prurigo?

Let us take either of these terms separately.

As to the "varicella," it is indeed difficult to say why he affixed this term to the disease, for while on one page he regards it as a kind of persistent chicken-pox, on another he seems to express a different opinion by saying "that it ought to be regarded as sequelæ of the exanthema" (*id est varicella*) "and not in any strict sense a continuation of it."

If the disease were a kind of persistent chicken-pox, which I shall try to prove not to be the case, there would be no reason to criticise this term; but as Hutchinson himself declares it an after-disease of the varicella, he divests himself of the right of calling it "varicella"; for we are not justified in using here the "*post hoc, ergo propter hoc,*" and calling the disease varicella, because it sets in after chicken-pox, just as we do not think of calling it morbilli or scarlatina, when it appears after these diseases, as it sometimes does.

In reality the disease is not a persistent chicken-pox, and I do not speak only of my case, but I likewise include Hutchinson's cases. In going through his elaborate article, I can not help thinking that the latter have very little in common with varicella. We have a chronic disease without fever, of which the principal symptom, because it is the initial one, is the result of a transudation—that is, an œdematous swelling—whether in the form of a papule or wheal, for both are only different stages of the same process. This is a symptom we never find in varicella. I can not see why we should overlook this first and principal sign of the disease.

On the other hand, there is some resemblance to varicella, but only in the later stage of our disease—viz., when the lesions have become pustular. They then resemble those of varicella, and are indeed so much alike that the physician who sees the patient for the first time and is not informed in regard to the steps in the process will readily be deceived. No wonder, then, that mothers who are naturally unable to distinguish between the two diseases will state that a child had chicken-pox. To speak of my patient, her mother was sure that it was chicken-pox, although I know that the nodular lesions were present in the beginning in the same way as they were in the later periods of the disease. They were simply overlooked or regarded as unimportant, for the reason that they did not belong to the symptomatology of chicken-pox.

The resemblance of the pustular lesions of our disease and those of varicella is for us actually without any great importance and can not influence our diagnosis, for we find vesicular or pustular umbilicated lesions leaving more or less depressed cicatrices in several other skin diseases. They have been termed varioliform on account of the resemblance they bear to variola lesions in their clinical symptoms; but that does not make them integral parts of variola. By the same mode of reasoning, we can say also that because a lesion objectively resembles a chicken-pox lesion, it is not by any means on that account chicken-pox.

As to the scars, they are to be regarded as nothing else but sequelæ of the scratching, for I found them much more pronounced on the face and extremities than on the back. Naturally on the former surfaces the little patient had full power of her hands for scratching purposes.

In order to understand the term "prurigo," I must state that Hutchinson does not acknowledge prurigo as a disease *sui generis.* He applies this term to all diseases in which excessive itching is the first and principal feature, "whether beginning from lice, from fleas, from woolen clothing, from half-cured scabies, or from some internal cause." The name varicella prurigo is therefore meant to express varicella pruritica.

Having thus demonstrated that the process is neither varicella nor prurigo, let us now consider what the disease is:

When the individual lesions were observed, we found a papule or a wheal, precisely the same as is met with in urticaria, and this represents the primary lesion, or the one characterizing the process. During the life history of this primary lesion, however, it was seen that an inflammatory bulla, becoming later pustular, arose upon the primary wheal as a base and lasted longer than the latter. This is an occurrence which, in my opinion, must be considered as secondary and independent of the original process. Now, when, in addition to the character of the primary lesion (that is, its clinical identity with those of urticaria), we take the sudden appearance of the wheals and the excessive itching, the conclusion which I arrived at—viz., that the varicella prurigo is primarily and essentially an urticaria—is certainly justifiable, and this view I am glad to find corroborated by T. C. Fox in an article on Urticaria in Infancy and Childhood. The results of his observations agree with mine, notwithstanding that our line of reasoning was different.

But how are we to explain the bullous and pustular lesions which form on the wheals? I have already said that I considered them to be secondary to the original disease, and I can not confirm the statement made by T. C. Fox, that urticaria pustulosa is the urticaria κατ' ἐξοχῆν of infants and children, for, according to my experience here and in Germany, pure cases of pustular urticaria are of rare occurrence; but when they are met with they are usually the result of secondary infection from without—that is, the *Staphylococcus* is brought in contact with the wheal by scratching and other means, and then a pustule appears. In my case there could be no question of the pustule being due to any external agent or cause, as there were no evidences about the primary lesions which would suggest that they had been in any way infected from without. The type was perfectly pure; each lesion was primarily a wheal, and within a very short time the further development was that of a distinct pustule, and in consequence it seemed to me that when we could exclude external infection we must look for some source of infection in the body. In my opinion, this is to be found in the fermentative processes of the intestines, which are very important ætiological factors, inasmuch as they may have a twofold effect. In the first place, they may produce wheals through reflex action; in the second place, ptomaines may be formed which, taken up by the circulation, may act as irritants upon the walls of the vessels, thus causing an inflammatory exudation into the tissues, where the wheal is situated, as there exists in that situation a *locus minoris resistentiæ.* These ptomaines may, furthermore, be pus-forming elements, and consequently the contents of the vesicle will, under those circumstances, become purulent and lose their simple serous character; for, as Brieger has shown in his elaborate work on ptomaines, the intestinal tract may be considered as a favorable location for the formation of chemical alkaloid products called ptomaines, caused under the influence of germs during the process of decomposition and of fermentation. These noxious products which are being continually formed are generally rendered harmless by the influences of certain products of digestion, such as indol, phenol, and skatol, for instance, in their chemical combination with sulphuric acid. Should the formation of these products of digestion be interfered with, owing to pathological conditions in the intestinal tract, it is evident that the influence of these noxious substances, normally produced, will no longer be controlled by their chemical antidotes.

There is one point that may seem to speak against Hutchinson's "varicella prurigo" being considered an urticaria—viz., the multiplicity of cases in one family; for Hutchinson observed in some of his cases several children of the same family affected simultaneously. One may think that this proves the contagious nature of the disease, but such is not necessarily the case. It is not uncommon to find several children of the same family affected at the same time with urticaria. This fact is not surprising considering that every one of them may be or may have been exposed to the same external or internal noxæ. In fact, this multiplicity is of such frequent occurrence that I have been asked more than once if the hives were contagious.

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NOTES ON
AN INTERESTING CASE OF ANEURYSM.*

By GEORGE W. MAJOR, M. D.,

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M. K., male, German, aged thirty-four, while walking in the street was suddenly seized with intense dyspnœa, and as he was in the vicinity of the Montreal General Hospital he made immediate application for relief. Dr. Richard L. MacDonnell, one of the physicians, was in the building at the time and admitted the man into one of his wards. As suffocation was imminent, I was summoned in consultation, and intubation of the larynx was decided upon. When I saw the patient, a few minutes after his arrival, his condition was desperate in the extreme and most painful to witness. He was unable to speak, his face was purple and swollen with blood, and he forced his finger tips into his ears in his efforts to relieve the pressure on the drum heads. I introduced an O'Dwyer tube of large size into the larynx, which afforded sensible but gradual relief. After the severity of the paroxysm had somewhat subsided I withdrew the tube, and succeeded in making a laryngoscopic examination, to which reference shall be made hereafter. When able, the patient stated that he had served in the Franco-Prussian war. He denied ever having had syphilis; had been married seven years; his wife had one child and had not miscarried. He was employed as a storeman, and was in the habit of lifting very heavy weights. He had not suffered from cough or pain in the chest. During the last two months he had several attacks of dyspnœa, but always found relief in the application of mustard. He was a large, well-built man, with a splendid development of chest, covered deeply, however, with a thick layer of fat. The pupils were of equal size, the radial pulses were equal, and there was *no tracheal tugging*.

Physical examination of the chest revealed simply diminished respiration over the left side. No dullness on percussion was at any time established, due, doubtless, to the great thickness of the thoracic walls.

The patient survived six days, and in that time was never quite free from dyspnœa. Intubation and catheterism were practiced twice during his residence in hospital, when death appeared imminent, but always with but modified relief. Finally, termination was by syncope. There was no doubt at any time existing in our minds as to the character of the case.

At the autopsy the clinical diagnosis of aneurysm was fully confirmed.

A saccular dilatation in the transverse and descending arch, about the size of a small orange, was found. The left bronchus, which passed immediately behind the sac, was almost obliterated. The rupture occurred at this point of constriction, and a number of nerve fibers connected with the pneumogastric and left recurrent laryngeal nerves were involved in the extravasation. The rupture took place into the posterior mediastinum, and there was secondary hæmorrhage into the stomach. Hæmorrhagic infarction of the pneumogastric, but particularly of the left recurrent, was observed at the post-mortem examination.

From the laryngologist's point of view, this case presents a number of interesting features and suggests a variety of considerations. Intubation did not afford the immediate and complete relief that one would expect in a case of purely glottic obstruction. The laryngoscopic examination showed the left vocal cord fixed at the middle line, left abductor paralysis with adductor spasm. The right vocal cord, though moving through its field, underwent intermittent spasmodic movements; the tendency was, however, decidedly in the direction of adduction. In this particular case the laryngeal image proved of great value as a means not only of assisting in the diagnosis of aneurysm, but also in estimating the part the larynx played in producing the dyspnœa. We might even go further and say that (taking into consideration concomitant circumstances, of course) the image was characteristic of pressure on the left vagus, or, at all events, pointed in that direction. Pressure on the vagus will produce abductor paralysis of the same side with adductor reflex spasm of the laryngeal muscles of the opposite side. In deciding these points, due allowance must be made for the stage of advancement of the aneurysm at the time of examination. If the pressure had been on the left recurrent nerve only, the vocal cord of the left side would have been affected and the dyspnœa would have been intermittent instead of having the permanent character it exhibited. Pressure on one recurrent nerve does not affect phonation and is not likely to give rise to troublesome dyspnœa; but pressure on one vagus, inducing double adductor spasm, as it does, will produce serious results thereby.

I stated a moment ago that the position of the vocal cords depended somewhat on the duration of the disease and on the amount of pressure exerted. I have occasionally observed in the course of an aneurysm that the image so varied from time to time, after a considerable interval, that I was led to doubt the accuracy of a previous delineation in my register. This change is more readily observed in a case of pressure on one recurrent nerve. For instance, in recurrent pressure there may be early in the case some dyspnœa, but rarely any voice affection; on examination, we find the vocal cord on the side of pressure at the middle line—abductor paralysis. Later on the dyspnœa disappears, but the voice is impaired. The laryngoscope shows the cord of the same side at the cadaveric position—complete paralysis; the adductor fibers have become involved. The patient now suffers from phonatory leakage. He can inspire freely enough, but he can not economize his air and is easily put out of breath in consequence; his cough also is difficult; the mechanism of cough is interfered with. At a still later stage the voice may improve; this is the result not of local improvement in the case, but of the compensating action of the vocal cord of the opposite side approaching its fellow to produce vocal effect. The same state of things no doubt may occur in vagus pressure modified by the difference in the conditions. Personally, I have not had an opportunity of following vagus pressure for a sufficiently long period to speak with any authority. The late Professor Elsberg, of New York, formulated a law with the object and intention of explaining these somewhat curious facts. He maintained that "the abductor filaments of the nerve are more prone to be affected than the adductor filaments, and that if in a given case in which both the abductors and adductors are affected, recovery takes place, the adductors are apt to recover first or exclusively and to be affected with abnormal contraction, so that the patient during the progress of recovery is in danger of a dyspnœa which may necessitate a tracheotomy in order to prevent death." In practice this law has received abundant confirmation, and, in the absence of any satisfactory explanation of a theoretical nature, we can not, I think, do better than accept it.

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* Read before the American Laryngological Association at its twelfth annual congress.

In the case I report, the laryngeal condition was due either to pressure on the left vagus or to pressure on the recurrents of both sides. In either case great dyspnœa would be present, and in the comparative absence of physical signs it became a nice question of diagnosis. The case was not seen until pressure on the vagus had been set up, but, from the history given by the patient himself, pressure on the left recurrent laryngeal had preceded it for some months. The obstruction offered to the entrance of air into the left lung, and the altogether greater frequency of aneurysmal pressure on the left side, were valuable considerations in arriving at a correct diagnosis. In the present instance there were no physical signs of any value present excepting the pressure on the left bronchus. The laryngeal indications were therefore paramount, and, when associated with certain collateral indications, a diagnosis was not difficult. In every case of loss or impairment of voice, and in every case of dyspnœa, an expert laryngoscopic examination should be made; it no doubt would often clear up obscure symptoms and enable us to properly estimate their true value. In the course of this case there is no doubt that the attacks of dyspnœa of the greatest severity were the result of pressure exerted by the succession of hæmorrhages that took place. We have no direct proof of this, but we made tolerably certain by intubation that the larynx was not entirely at fault. The question of tracheotomy was raised at different times for the relief of the dyspnœa, but was negatived for the following reasons: In the first place, intubation failed to give the instantaneous relief it should have afforded in a case of purely laryngeal obstruction. In the second place, there was a general absence of the usual signs of laryngeal dyspnœa—for example, the larynx was stationary in the throat; it did not descend during inspiration. There was no suprasternal depression and no diaphragmatic retraction. The voice was weak, the cough and inspirations were asthenic, and the muscles of the chest were quiescent. The abdominal walls were, however, in a state of great and continued activity, especially during expiration. Had the dyspnœa been of a laryngeal nature I should not have hesitated to perform tracheotomy, not only for the relief of breathing, but also as a means of delaying the rupture of the sac.

I mentioned the absence of *tracheal tugging* in this case, and, as it is a symptom of aneurysm but little known, will say a few words concerning it before closing. Tracheal tugging was first described as a symptom of aneurysm of the arch by Dr. W. S. Oliver* (surgeon-major in H. B. M.'s regular army, retired), of Halifax, Nova Scotia. It has been recognized in the practice of the Montreal General Hospital ever since, but there has seemed to exist some doubt as to the exact way in which the "tugging" was brought about.

When the aneurysmal sac is immediately over the bronchus the direct pressure downward produces this symptom, which is synchronous with the pulse, whereas if the sac is behind or before there is no effect produced. Dr. MacDonnell, Professor of Clinical Medicine in McGill University, first gave me this explanation of the phenomenon, which I have since proved by reference to case reports. To detect this symptom the patient is placed seated upright in a chair with the mouth closed. The trachea is drawn upward by traction on the cricoid, and if "tugging" is felt you can be, in so far as my knowledge and experience goes, pretty certain of an aneurysmal sac pressing downward on the left bronchus.

The autopsy in this case was made by Dr. Wyatt Johnston, pathologist to the hospital, and my short report of the appearances was abstracted from the hospital register.

Operation for Distichiasis.—"Dr. Landolt has lately devised a new operation for this troublesome affection. He splits the lid into two portions by an incision carried right along the intermarginal space. The anterior flap contains the skin, loose tissue, and cilia, the posterior the tarsus and muscle. He then divides the anterior flap into two parts by a longitudinal incision. The lower part, which is made very small, contains the cilia. This part is shoved right up under the upper part of the anterior flap, so that it reaches to a level above or at the superior margin of the tarsus. The upper, larger part falls down by its own weight, and its edge is united to the inferior edge of the posterior flap. As soon as these two edges are firmly adherent one with the other, a longitudinal incision is carried along the eyelid at a few millimetres from the edge; and the cilia, which have till now been inclosed in a sort of pouch, are liberated."—*Glasgow Medical Journal.*

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* *Lancet*, September 21, 1878.

THE RAWHIDE PLATE.

A NEW PLATE FOR INTESTINAL ANASTOMOSIS.

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Very little distinct surgery of the intestines was done in a systematic method until Travers, of London, published his investigations in 1812. He entitled it *An Inquiry into the Process of Nature in repairing Injuries of the Intestines, illustrating the Treatment of Penetrating Wounds and Strangulated Hernia.* In this work Travers demonstrated remarkable tact, ingenuity, and judgment. His deductions were able and philosophical and his experiments far-reaching and practical. It was Travers who showed that a fine thread could be tightly tied around a dog's intestine, and the thread would cut through and fall into the gut lumen, while the dog would recover. The fæcal circulation would again assume its normal course. The next European experimental work on the intestines was done in France about 1825, when Jobert gave the profession his ingenious operation, and Lembert, in conjunction with Jobert, recorded the immortal Lembert stitch. Professor Czerny, of Heidelberg, a student of Billroth's, gave his stitch to the profession a few years ago. Dupuytren, Larrey, and Baudens added by practical work improvements to intestinal surgery. Ledran, Ramdohr, Denans, Reybard, Adelmann, Gegenbaur, and other Europeans recorded some experiments, but not any particular advance over Travers, Lembert, and Jobert. In America, Dr. T. Smith, of the Island of St. Croix, made a dozen experiments on dogs' intestines to test the sutures of Bell and others.

The report of Dr. Smith's experiments was published in 1805 in his Inaugural Dissertation, and placed before the trustees and faculty of the University of Pennsylvania. Dr. Smith mainly recorded the action of the operation on the animal's life, but did not give many practical views as to the nature of the pathology of repair. But autopsies then and now are different factors in medicine. Much silence reigned until 1841, when Dr. Gross, while living at Louisville, Ky., did a very notable series of experiments on seventy dogs, extending over three years. Dr. Gross did all known experiments on the intestines at that time, and deserves our lasting admiration for his courage, able execution, and commendable spirit of progress in those days of no anæsthetics.

In 1884 Professor Charles T. Parkes, of Chicago, performed a very valuable series of experiments on dogs' intestines, mainly with regard to gunshot wounds. The able work of Professor Parkes attracted widespread interest in this country. Cuts showing the results of this accomplished surgeon's experiments may be seen scattered through various surgical works, and I know personally that much good resulted to the profession from his labors.

Very little further experimental work was done to throw any light on intestinal surgery until 1887, when Professor Senn, assisted by Dr. Connell, carried out one hundred and fifty systematic experiments. In this remarkable series of experiments the brilliant genius of Senn, with his untiring energy and laudable industry, erected to his name a lasting monument of benefaction to humanity. Professor Senn's book is the best sample of the vigorous spirit of modern progress yet presented in this department of surgery. The essential idea which will be of lasting value in Professor Senn's experiments is that of anastomosis by approximating perforated discs. Professor Senn notes that Dr. Connell first suggested their use. In 1887 I began systematic experiments on the intestines of dogs, assisted by Dr. D. D. Bishop, now of Rush College. The work was continued here mainly with the aid of Dr. C. S. Miller. Dr. Gillette also shared in it. Carefully recorded work has been carried on from then until the present. We have now over one hundred and sixty systematic experiments, besides many irregular ones. As a result of these experiments, we have several new things to present to the profession. One of the new things is a rawhide plate for intestinal anastomosis.

It would be very neglectful if I did not say that Dr. Brokaw, of St. Louis, Dr. Davis, of Birmingham, Ala., and Dr. Matas, of New Orleans, have done extensive and splendid work in experiments. Dr. Davis presents the catgut mats, Dr. Matas his solid catgut ring, and Dr. Brokaw his very valuable segmented rubber ring. The advance in intestinal work is unparalleled in any age. The progress and revolutions of the past eighteen months' intestinal work are absolutely marvelous. And it still continues, for Dr. A. C. Bernays, of St. Louis, writes me, on his return from Berlin in September, that the medical men there were talking of giving up all aids to intestinal anastomosis, such as plates and rings; that they got better results from the simple Lembert suture. We hope the Lord will forgive all such sinners. This idea reminds us of Daniel Webster in Congress giving up the idea of telegraphy as a failure.

In 1889 I began to look around for a more convenient material for intestinal anastomosis than Professor Senn's decalcified perforated bone plate. His plate does the work quite well, but it requires some ten to fourteen days to prepare the plates, and they cost a dollar a pair. As the subject was then quite new, one had to rely on his own resources. At that time I had never known of cartilage being used, and, in daily passing a large butcher-shop, the non-ossified or cartilaginous part of a young beef attracted my attention. I used that with success in the form of perforated plates with four to six sutures. But I lost some dogs from too rapid absorption of the cartilage plates, so I abandoned it. For cartilage to resist absorption in the upper alimentary passage it requires a large, thick plate. For months I tried all kinds of material, chiefly leathers. The healing of the anastomosis was nearly always good, but an inabsorbable plate is a possible source of danger. Finally, to put a long, tedious number of experiments into a short story, I began the use of rawhide plates. These proved to be a remarkable success in living experiments from the simple recovery of so many of the animals. The rawhide plate is made by shaving the hair from the green hide of an ox. Then cut the hide into strips an inch wide and two inches and a half long. Perforate the plate by a diamond-shaped aperture (half an inch by three quarters of an inch). Then apply four to six sutures to the plate, armed with four to six needles, and it is ready for use. The plate can be used dried or green. We have tried both ways many times. If the hair is shaved from the green hide and then the hide is dried, it thickens and stiffens it so that almost any kind of plates suitable to any part of the alimentary canal can be obtained. The features of these rawhide plates are—they are eminently suitable for the operation of intestinal anastomosis; they are easily prepared, quite accessible, and very convenient; they are suitably absorbable and can be well adapted to the character and quality of the intestinal tract.

After a very large number of experiments, I am fully convinced that a plate should not be absorbed too soon. One can not rely on any definite period of healing from peritoneal plastic exudates. The exudate may be rapid in its formation or much delayed. A plate should hold intact for about five days to insure success. The superiority of plates over all rings is in the amount of serous surface held in continuous approximation. Rings hold only a limited serous surface in approximation, and they are apt to contuse or cause sloughing. A plate produces equable and uniform pressure in all directions, and thus causes no sloughing or gangrene. Its edges are round and smooth, and no prominences project against the gut wall to cause gangrene of its tissues, forming fæcal fistula, and inviting the demon peritonitis to end the scene. The rawhide plates produce excellent fixation of the anastomosed parts, and consequent mechanical and physiological rest, which is required for sufficient cell proliferation and definite healing. The plate is not large or bulky, is easily inserted, and is very convenient for rapid execution—a prime necessity in all intestinal operations.

Anastomosis means the opening of one mouth into another, the communicating of one vessel with another. Intestinal anastomosis means the communicating of the lumen of one gut with the lumen of another through its walls. It is an artificial fistula in which the mucous membrane is continuous through a new channel which passes through the contiguous bowel walls. It is, in short, a bimucous fistula, which disease must have frequently been established shortly after intestines were created. Yet the idea of forming an artificial bowel fistula arose not long ago among the French. The original genius who conceived the idea did some unsuccessful operations on human beings, and the vacillating French doctors covered the poor operator with such violent storms of abuse and indelicate opposition that he dared not advocate his project or publish his writings. Curiously enough, the French were in this one thing conservative. Thus Dr. Maisonneuve's valuable conceptions lay dormant in the bowels of oblivion for years, to be acted on by a few unheeded and unnoticed progressive men, until actively revived by the bold and skillful surgeon, Dr. Hahn, of Berlin. The ground of opposition of the French medical society to intestinal anastomosis was, that fæces would accumulate in the excluded bowel loop and finally kill the patient. Our experiments, which are now over a hundred and sixty, demonstrate definitely that the fæces will not accumulate in the excluded loop, but will take the shortest route through the bimucous or artificial fistula. Experience teaches that the physiologically excluded gut will simply atrophy. Peristalsis drives the fæces out. There is a tendency in the artificial fistula to contract while healing, so that the original incision should be liberal in size. The artificial fistula as it heals often acquires a sphincter-like condition from the periodical contraction and dilatation of the fistula, due to the irregular passage of flatus and fæces. Among the essential elements to insure rapid union of parts in intestinal operations is scarification of the serous surface coaptated. We have proved often that any abraded, denuded, or raw surface in the abdominal cavity, if retained approximated, will unite. It does not matter whether it is denuded mucous or serous surface. On this principle I have a new operation to present to the profession. It is simply the principle of denuding a mucous surface and placing it in fixed approximation to a scarified serous surface. Denuded or raw surfaces heal universally. Another very important aid in the healing of intestinal wounds is the application of a peritoneal or omental graft to the parts operated on. The surface of the graft and the surface to which it is applied should be scarified with a needle point and held in position by a few fine sutures. The grafts should be large enough to completely cover the whole wound. If the wound is extensive, one or more grafts could be applied. Grafts two by four inches live well and retain remarkable vitality. The grafts are best obtained from the omentum. Grafts are used in two ways. One is to apply the omentum (the edge or any part) around the parts operated on, fix it in position with sutures, and leave it unsevered from the omentum. It is not cut away from the original attachments. I have used the graft in this manner about a hundred times and never saw a bad result. The objection to raise against it is, that it will create an arch under which intestines will slide to and fro and may become herniated. Wandering guts may be caught and strangulated. This may happen, but in a hundred and fifty post-mortems made by myself no such thing has been found. The autopsies were made from one to eighty days after the operation. This method of graft application is very certain in its healing, and many times I have found distinct fæcal fistulæ which were arrested by the thickened graft. In these cases the graft absolutely is the means of saving life.

The other method of using peritoneal or omental grafts is to completely sever them from some part of the peritonæum or omentum, and then to apply them over the parts operated on, fixing them in position by sutures. I have tried this method many times with success, and used grafts from the omentum as large as three inches by five inches without a sign of loss of vitality. I have tried the grafts in all ways, severed and unsevered, scarified and unscarified, and am convinced that few bowel operations should be done without the application of a graft. I wish to suggest that, if omental grafts are used, they should be taken from the edge (cut or torn), and not from the center or interior. We did this a few times, tearing an omental graft out of the interior of the omentum, leaving a hole varying from two inches by four inches to three inches by six inches in this membrane. The autopsy of several of those cases rewarded us with very instructive information. In a case of gastro-enterostomy an aperture was torn, and at the autopsy, weeks after, six feet to eight feet of small intestine were found prolapsed through the hole in the omentum. The edges of the aperture had become rounded and thickened, and might strangulate the prolapsed intestines at any moment from mechanical or pathological causes.

In another case a similar occurrence was found at the autopsy when the animal was killed to obtain the specimen. The abdomen was closed by some three sutures to an inch, including skin, fascia, muscles, theca or fascia, and peritonæum. Hernia occurred in about three per cent. of the cases. But in every instance, as far as could be seen, the hernia was caused by the failure to secure the theca well (the combined fascia or aponeurosis of the oblique and transversalis abdominal muscles). I believe this is precisely the condition in the human subject. In human laparotomy, hernia is nearly always caused by the failure to secure the combined fascia or tendon of the oblique and transverse abdominal muscles well and close it with sutures. The limits of this article forbid further discussion.

The following experiments will illustrate the technique, methods, convenience, absorbability, and general use and worth of the rawhide plate, which, I hope, will be useful in future intestinal surgery. I will select at random cases of operation in different parts of the alimentary canal with the plate:

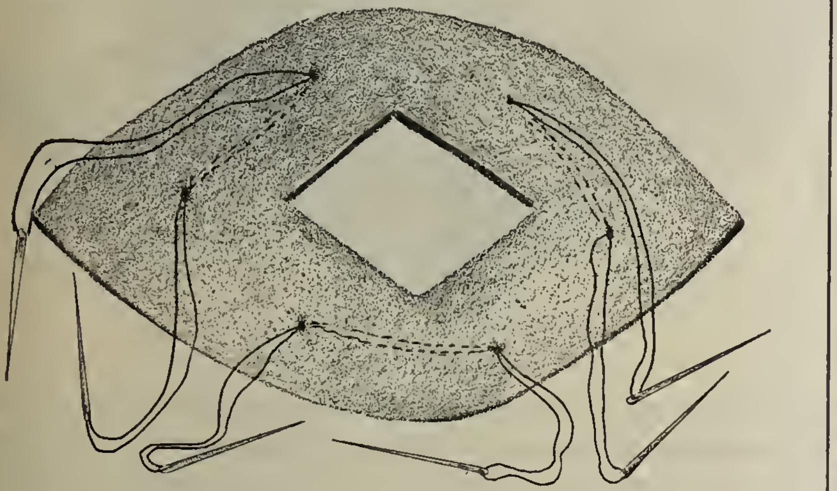


FIG. 1.

Experiment No. 18.—Dog, male; weight, twenty pounds; operation, gastro-enterostomy. In this case I used belt leather, or raw hide slightly tanned. Abdomen opened and omentum pushed to left, and loops of small intestine drawn out and incised on its convex border an inch. In this incision was inserted a rawhide plate (an inch by two inches and a half), armed with four sutures, and a needle attached to each lateral one. The two lateral needles were pushed from inside the gut outward, penetrating the entire bowel wall a third of an inch from margin of wound. An incision was made in the stomach (an inch and a half) after it was drawn out, and a plate was similarly introduced. The serous surface over the plates was scarified, and a continuous Lembert suture stitched the gut and stomach together, and, as the continuous suture coapted the scarified serous surface, the corresponding sutures on the plates were tied, first the lower lateral, then the two end ones, and finally the upper lateral one. A few over-sutures were applied. A scarified graft (omental) was applied over the scarified anastomosis and sutured in position by a few fine sutures. The dog made an uninterrupted recovery. Eighteen days after, the dog was killed. Abdominal organs found healthy. The omental graft had formed firm and strong adhesions. The anastomosis was well established. Water turned into the stomach passed equally through the new and old channel. The artificial or bimucous fistula had contracted to about half its original size. It admitted the index finger, and had the appearance and feel of a distinct sphincter. Plates entirely gone. Two threads of linen were hanging in the edge of the fistula. In approaching the stomach, instead of pushing the omentum to the left, as in securing the bowel, the great omentum was torn through, making an aperture about three inches by five inches. Through this hole some seven feet of small intestine had prolapsed. It looked very suggestive to see that roll of viscera hanging in front of the omentum, and teaches us not to make such holes or to resuture them. It would, no doubt, strangulate the intestines by some mechanical condition in the future. The plates should be kept in alcohol. The anastomosis was done four feet below the stomach. I did not intend to do that, but supposed I had the duodenum. This is dangerous, as marasmus will frequently follow from the excluded gut. The early advice of Luecke and Lauenstein, though of high authority, must be discarded. It was to seize the first appearing loop of bowel (distended). That is not justifiable, as it might be the lower end of the ileum—a mistake Lauenstein made, killing his patient in a few weeks from marasmus. To find the duodenum, introduce the index and middle fingers and feel for the pylorus, and especially the end of the pancreas, of course pushing the omentum to the left. The four feet of excluded bowel did not accumulate fæces, but assumed a condition of atrophy. Any anastomosis on the stomach should be done from its most dependent portion, so that the secretion and food can pass out with no hindrance, and also so that the continual passage of material will keep the bimucous fistula patent. This dog ate voraciously, but lost flesh. Our experiments demonstrated that the physiological exclusion of four feet of bowel was often followed by marasmus.

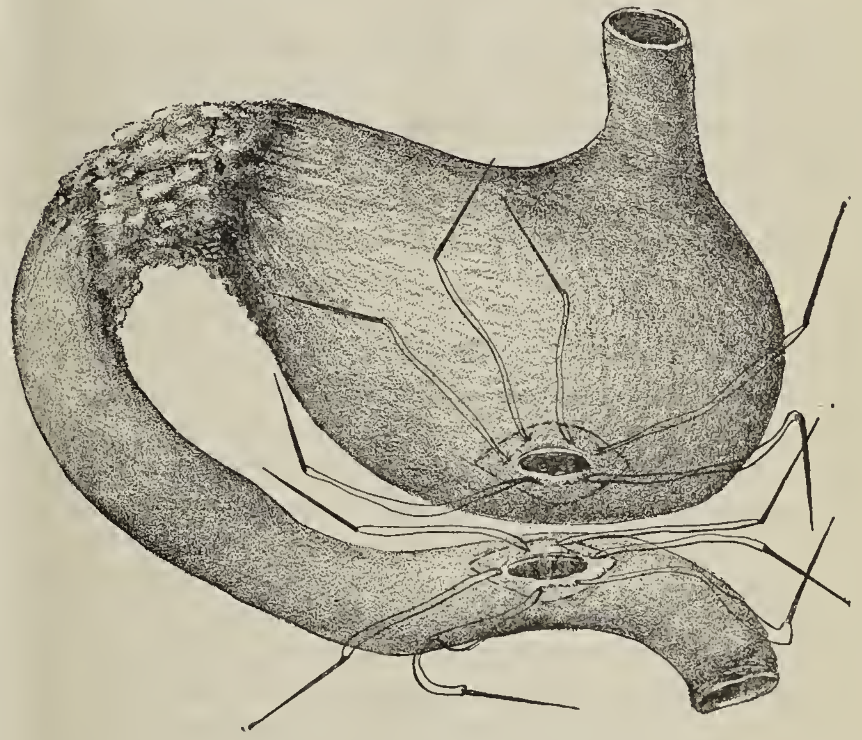


FIG. 2.

Experiment No. 24.—Dog, male; weight, twenty pounds; operation, gastro-colostomy; material, rawhide plates. The intention was to anastomose the colon (transverse) to the stomach. The stomach incision was an inch and a half, and the bowel an inch long. The plates were inserted, and the lateral needles pushed from within outward, the serous surface was scarified, the plates were placed *vis à vis*, and the corresponding sutures were tied—first the lower, then the end, and finally the upper. No Lembert sutures employed, and no graft. Time of operation, twenty minutes. Dog made a good recovery. He was chloroformed to death in eleven days. Autopsy showed all abdominal organs healthy. The autopsy also showed that the transverse colon was not disturbed, but the rectum was anastomosed to the stomach. Hence the dog had just enough stomach and gut to reach from mouth to anus for an alimentary canal. It dragged and dilated the stomach about a quarter larger than normal. Water turned into the stomach passed almost entirely through the new artificial fistula, which had contracted to half its original size, and felt precisely like a natural sphincter. It admitted the index finger. Though the dog had nearly all the bowels excluded physiologically, he did not have marasmus. The plates were entirely absorbed. No fæcal accumulation occurred in the excluded bowels. Without large practice, one can not seize the bowel at a desired point unless eventration is resorted to, passing the bowel before the eye and through the fingers.

Professor Madelung, of Rostock, made crucial tests to show the difficulty of diagnosis of points of the intestines which are familiar to most abdominal surgeons. They demonstrate that practice alone insures accuracy in diagnosticating disease of the intestines.

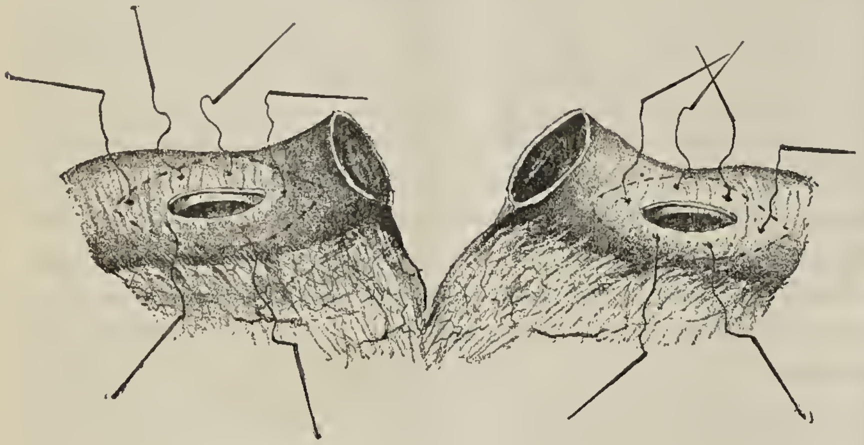


Fig. 3.

Experiment No. 22.—Dog, female, weight fifteen pounds. Operation, ileo-ileostomy; material, rawhide plates; animal chloroformed, belly shaved, and through a two-inch abdominal incision a loop of small intestine was drawn out along the right side of the omentum. The bowel was completely severed and its two ends invaginated each an inch and held in position by four to six continuous Lembert sutures. On the convex surface of each gut (the part most distant from the mesentery) incisions an inch long were made. Rawhide plates (an inch by two inches and a half) were inserted in the bowel. The six needles armed with linen sutures were passed from the inside of the gut lumen through the entire bowel wall one third of an inch from wound margin. The serous surface over the plates was scarified with a needle point, the plates were approximated, and the six corresponding sutures were tied. A few continuous over-sutures were added. An unsevered omental graft was applied to the anastomosis and held in position by four fine sutures. Ten inches of the ileum was excluded. Dog recovered excellently, ate, drank, played, and appeared happy. She had slight marasmus. She was chloroformed to death fifteen days after. The autopsy showed healthy viscera. A very circumscribed local peritonitis had arisen and subsided. The graft was solidly and firmly grown to the parts. The severed gut ends were well healed, but one had continued to invaginate two inches and the other an inch and a half. This is a danger I have frequently observed, but have never found it recorded by other writers. I have lost eight to ten dogs from this cause. The invagination continues, and it finally mechanically occludes the gut lumen or the artificial fistula. The plates were entirely absorbed. In the absence of hydrogen gas at the autopsy I filled a four-gallon rubber balloon with air and inserted its nozzle into the rectum. The abdominal wall was then removed. Slight pressure on the balloon soon forced the gas with an audible noise through Bauhin's valve, through the pylorus, and out at the nose. The anastomosis did not leak. If, however, one attempts to force the air or gas from mouth to rectum, it will generally rupture or lacerate the tissues, especially the peritonæum.

Experiment No. 40.—Dog, male, weight twelve pounds. Operation, ileo-ileostomy; material, green, soft rawhide plates. A loop of intestine was drawn out and anastomosed. No over-sutures, but an unsevered omental graft was well applied over the parts and sutured in position. As dogs were occasionally scarce, we operated several times on the same one at different dates, so, nine days after, circular enterorrhaphy was performed on this dog. He did well, ate, drank, and played. Twenty two days after the first and nine after the second operation the dog was killed. The organs were found healthy at the autopsy. Two points showed the rise and subsidence of a local peritonitis at the enterorrhaphy and anastomosis. The graft had healed; it was strong and firm. The anastomosis was well established, conducting nearly all of the fæcal circulation. The artificial fistula had contracted to half its size and was distinctly sphincter-like. The fistula is generally larger when *all* the fæces and flatus are compelled to go through it. Here it had two routes. Rawhide plates entirely absorbed. All the sutures (six) were still hanging in the edge of the artificial fistula. The circular enterorrhaphy had contracted to a third of its original size and was beginning to cause obstruction.

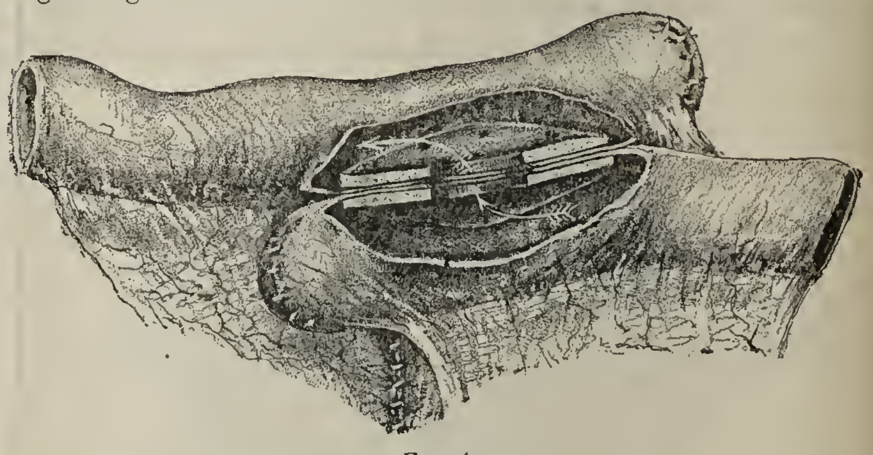


Fig. 4.

Experiment No. 66.—Dog, male, weight twenty-five pounds. The usual preparations and a loop of intestine drawn out. Ten inches was resected. The two divided ends were invaginated an inch, and so sutured in position with six continued Lembert sutures. Rawhide plates were introduced into the incisions in the bowel and approximated and tied. A graft was applied over the parts and sutured in position. The dog made an uninterrupted recovery, ate, drank, and played. He escaped, unfortunately, on the ninth day, hale and hearty.

Experiment No. 67.—Dog, male, weight ten pounds. Operation, resection of an inch and a half of bowel, and canal restored by anastomosis with rawhide plates. After the resection the two bowel ends were invaginated an inch each and sutured in position, then anastomosed. Graft applied. The rawhide plates were very thin. The dog was killed on the ninth day. Graft was well healed, anastomosis well established, and artificial fistula of good size. Plates entirely absorbed. A very important point was again observed in regard to the invaginated bowel ends which had proceeded beyond the point of the artificial fistula, causing danger of mechanical obstruction at any moment. What is to be done to avoid it? Invaginate only half an inch, so that the muscles of the gut do not get any purchase power in peristalsis.

Experiment No. 43.—Dog, male, weight forty pounds. The dog's intestine was drawn out and invaginated four inches by forcing the upper segment of the bowel into the lower or drawing the lower over the upper. The invagination was sutured in position by four sutures; belly closed. Forty-eight hours after, abdomen reopened. The gut had so violently disinvaginated itself that it had torn out two sutures and insinuated itself out between the other two. The whole disinvaginated loop was excluded by anastomosing the gut above to the gut below with rawhide plates (green and soft). Graft applied. Dog died nine days after from progressive fibrino-purulent peritonitis. The peritonæum showed at the autopsy a wonderful variety of pathology—pyogenic membrane, pus puddles which Nature had tried to hem in, and local fields of tortuous impacted blood-vessels meandering like golden threads over dusky mottled membrane. The excluded gut was contracted and only had a little mucus left in it. Two invagination sutures still existed in the bowel. The anastomosis was well established and the artificial fistula was large. No sign or trace of the plates was seen. The graft was solidly and firmly healed. The dog was killed by infection at one of the operations.

Experiment (not numbered).—Dog, male pup, weight eight pounds. Operation, ileo-ileostomy; material, rawhide plates, very thin. A loop of intestine was drawn out, and, through incisions in the bowel, the plates were inserted, coaptated, and tied. The dog ate, drank, and played the next day, and continued in this manner until he was killed, two weeks later. Autopsy: Abdominal organs healthy. Graft well grown. Anastomosis established; but here again the fæcal circulation had two directions to travel, and hence the artificial fistula was small. Plates entirely gone.

Many more examples might be adduced out of over a hundred and sixty experiments, but, no doubt, sufficient have been given. The cuts will illustrate the technique and methods of using the plates.

THE RELATION OF GONORRHŒA TO RENAL DISEASE.

By JAMES KENNEDY, M. D.,
SAN ANTONIO, TEXAS.

In a case of urethral stricture where I performed the operation of external urethrotomy the patient died within five hours, and post-mortem examination revealed the existence of a chronic suppurative nephritis. The patient having given a history of gonorrhœal infection, followed by gleet and subsequent interference with micturition, the inquiry naturally suggested was, What relation did the gonorrhœal infection bear to the renal lesion?

The history of the case in which I operated is briefly as follows:

The patient, who was thirty-eight years of age, had contracted gonorrhœa some two or three years previously, had used various injections, and, after several months of this self-treatment, considered himself cured.

Within the past year he had experienced pain in the region of the bladder, and had noticed that his urine would often be of an unnatural appearance, being sometimes milky, and experienced considerable difficulty and often pain in emptying the bladder. But only within the past month did he deem it necessary to send for a physician, and then only because of the urgency of his symptoms, being unable to empty his bladder, and, in consequence of the overdistention, suffered intense pain.

I attempted to relieve his condition by means of a flexible catheter, but found it would not pass the deeper stricture (there being two). I then resorted to a metallic instrument, and succeeded in emptying his bladder of its foul contents, which consisted of decomposed urine, pus, and blood.

I believed from the history and symptomatology that I was dealing with a bad case of chronic cystitis, and that relief, if any was to be obtained, must be found in the creation of an artificial urethra and the removal of the stricture by means of an external urethrotomy, which, in addition to draining the bladder, would also enable us to wash it out with antiseptic solutions, by which means I hoped to arrest the inflammatory process and ameliorate the patient's condition.

In reference to the operation I need only say that I operated according to the usual method, and, after an opening had been made into the urethra, a cannula was introduced. Chloroform was used as an anæsthetic, and the operation completed in ten minutes. The patient rapidly recovered from the anæsthesia and was not unconscious more than twenty minutes.

I left him at 12 M., and instructed to give him stimulants in moderate quantity. When I returned at 5 P. M. his pulse was feeble and so rapid that it could not be counted. On examination, I found that no urine had passed through the cannula, and suspected some obstruction in the instrument. This proved to be not the case, however, for, on removing the instrument and exploring with the finger, the bladder was found empty. There was acute suppression of the renal function.

The pulse grew more feeble and more rapid, and respiration became labored and interrupted. I administered whisky hypodermatically, but to no avail. I sent for digitalis, but the patient sank rapidly and died before it arrived.

Post-mortem.—The bladder showed evidence of chronic inflammation, being four or five times its normal thickness. The ureters showed similar evidence of having participated in the inflammatory process.

The kidneys were about three times their normal size, and, on section, exhibited a number of abscesses of various sizes, some containing as much as two or three drachms of thick, greenish-yellow pus. Each abscess had a distinct wall of considerable thickness, and many of them communicated.

These organs were literally nothing more than suppurating masses of tissue, and how they managed to perform their important functions in their extremely disabled condition, as they had been doing for months, I do not understand.

Relation between Gonorrhœa and Renal Disease.—There is no doubt in my mind that if this patient had not contracted gonorrhœa he would not have died of suppurative nephritis. I believe that gonorrhœa is a frequent causative factor in renal disease, and that among the sequelæ of this lesion nephritis is not rare.

The ways in which gonorrhœa may induce disease of the kidneys appear to me to be as follows:

1. By direct extension of the inflammatory process by virtue of continuity of structure.

2. By interference with escape of urine, as in stricture. The bladder, becoming filled, causes the urine to collect in the pelvis, calyces, and tubules of the kidney, and interferes with the process of secretion, causing congestion, which, if prolonged, the succeeding stages of inflammation follow and a nephritis is established.

3. By reflex irritation. The urethral irritation may reflexly disturb the renal function and cause hyperæmia and congestion.

4. By diuretics. The excessive or injudicious administration of copaiba, cubebs, etc., so commonly used for the cure of gonorrhœa, may induce disease of the kidneys by overstimulation of these organs.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 18, 1890.

PAWLIK'S OPERATION FOR CANCER OF THE CERVIX UTERI.

The *Medical News* gives an interesting estimate of Pawlik's recently proposed operation for the free extirpation, by the vaginal method, of the neck of the uterus when cancerously diseased, and of the perimetric connective tissue along with the diseased part of the uterus. This procedure is dignified by the somewhat ambitious, possibly misleading, title of "the radical cure of cancer of the cervix uteri." The "radical" feature consists in the free use of the knife upon those lateral tissues in which the disease usually spreads before it extends from the cervix to the body of the organ. Incidental to this operation are Pawlik's studies in regard to catheterism of the ureters, which confirm the view already pronounced by that surgeon that the free removal of the infiltrated tissues may be accomplished without injuring the ureters. This confirmation has been found, the writer believes, in the fact that the ureters are rarely involved in the cancerous infiltration. In four cases of cancer of the cervix he inserted a catheter into the ureters and proceeded to remove the diseased organ and its adjacent connective tissue. The results thus far obtained appear to justify the inductions; two of the patients are now alive and without a recurrence of the trouble, a year and more having elapsed since the operation; in a third case cystitis with uretero-vaginal fistula has been an unfortunate sequel, but the patient's general health has continued good. One patient has passed out of observation and can not at present be reported on.

This is a small series of cases upon which to build any broad generalizations, but we are confident that it will enlist the attention of surgeons. The writer in the *News* has evidently been under the immediate influence of Pawlik, since that part of his article which relates to catheterism of the ureters reveals the fact that "under his eye we have successfully followed his example" in regard to the delicate manipulation. He therefore writes with a full appreciation of the requisites of the operation under discussion. Catheterism of the ureters, while not exceedingly difficult, requires constant practice, and Pawlik himself embraces every opportunity to practice this exploration, for he finds that only in that way can he maintain his remarkable dexterity. It is evident from this that the average operator may not at once succeed in following his example. Without a guide in the ureter it would certainly be unsafe to attempt the radical removal of connective tissue surrounding the diseased cervix, and impossible to determine whether the ureters were not themselves involved in the disease. To one who has diligently built himself up in manipulations of this delicacy this so-called radical cure will appear worthy of a trial, whereas the less expert and dexterous will approach the practice with diffidence. The class of cases to which it will probably be found best applicable will be those in which the perimetric tissue is only partially invaded, as shown by a remaining mobility of the uterus, and in which the disease has not extended to the fundus; in other words, the early employment of the operation will give the greatest promise of success.

THE ADIRONDACK SANITARIUM.

This institution, at Saranac Lake village, has now reached such a point of popular approval and grateful recognition that gifts begin to flow in upon it, and its permanent endowment may be looked forward to as a very probable event. Dr. Trudeau is no longer alone there as attending physician, but is now assisted by Dr. C. F. Wicker. The present accommodations are for fifty patients, but two new cottages are now being built, which, with other proposed changes, will make them sufficient for about sixty; as it is, the room is all taken up, and applicants are awaiting their turn as vacancies occur. A benevolent New York lady has given the means necessary to the erection of a recreation hall, or pavilion, which will contain billiard tables and other apparatus for gentle exercise in inclement weather; also about it there will be promenades which can be shut in with glass when the midwinter cold prevents the patients from going into the open air to the same extent as in other seasons. There are a few free beds for recommended patients, for the benefit of those who can not defray the almost nominal charge of five dollars a week. The cottages are small, being commonly designed to hold not more than from two to five beds. Out-of-door life being one of the cardinal principles of the Adirondack regimen, facilities are provided for riding, walking, and other suitable diversions. In regard to admissions, it is the aim of Dr. Trudeau to restrict them to cases of phthisis in its incipient stage and to persons of the *res angusta domi* type, and thus to restore to their occupations the productive and industrious members of society; he thus acts on the principle that Mr. Jonathan Hutchinson has given recent expression to as being the fundamental idea of the modern hospital—namely, that it is an institution for the prevention of orphanage. No single generation measures the bounds of influence for good of the modern institutions of charity. Dr. Trudeau himself and some of his most interested supporters have been restored to health and useful activity by the Adirondack air and regimen, and they know the extent as well as the limitations that pertain to the work they have so carefully and beneficently undertaken.

KOCH'S BERLIN ADDRESS.

The statements made by Koch in his notable address at the Berlin Congress have received confirmation in two important points. To one of these we have already referred—namely, to the work done by Grancher and Martin, of Paris, in the production and arrest of inoculated tuberculosis in rabbits. This work is confirmatory of Koch's experiments on the guinea-pig, with an agent not yet named, for the reason that the series is yet incomplete and under observation. The second point wherein Koch's observations have been corroborated is that regarding the antitubercular properties of gold and silver compounds. This we learn from an article in the *Lancet* for August 30th, which describes the almost synchronous discovery of an Austrian official in regard to the apparent prevention of phthisis among workmen who have to handle and work with "cyan-gold." This observer, Herr Reuter, read a paper in April last before the Industrial Union of Lower Austria, showing how his position as director of several great workshops of metallic wares, at home and abroad, had led him to notice the relative infrequency of consumption among his operatives, and to become inquisitive as to the agencies at work among this class of workmen. He paid particular attention to works in which the artisans were engaged in galvanizing articles with gold and silver, and the inquiries that were made by him gave him the impression that a healing virtue resided in prussic acid, the use of which is essential in those workshops where the "cyan-metals" dissolved in potassium cyanide are used. Herr Reuter obtained much confirmatory testimony from the workmen in these works. Not only did they agree that consumption was extremely rare among them, but that many of those who came into the works from other places, and who had diseases of the respiratory organs, were greatly benefited, and some entirely cured. Since the adjournment of the Berlin Congress, the Vienna Medical Association has begun the consideration of Herr Reuter's observations, and has already indicated that they appear to be reliable and valuable.

We commend to our readers a full perusal of Koch's great paper, for, if we mistake not, it will hereafter take rank with the epoch-making essays of Harvey, Boerhaave, Hunter, Jenner, and Pasteur. It is too early yet to know positively facts which Koch himself announces apologetically and in part only; still it is a significant and hopeful sign that, almost immediately upon the adjournment of the great Congress, there should come from different sources, and with different ends in view, these various voluntary confirmations.

MINOR PARAGRAPHS.

RUPTURE OF THE VAGINA.

Dr. Himmelfarb, of Odessa, and others are quoted in the *British Medical Journal* regarding the causation of this injury. He has carefully studied the literature of this comparatively unexplored subject, and presents cases of his own. He concludes that, while the major part of the cases reported have been an accident of parturition, there are some cases that have been due to the introduction of foreign bodies and to violent coitus. The last-named cause is not always acknowledged when it should be. The rupture of the vagina of old subjects during coitus is a well-recognized injury. When the accident occurs in young subjects the explanation of its production becomes more difficult. Dr. Himmelfarb reports a case in a healthy woman, aged twenty-four, in whose person the posterior wall of the vagina was torn through during coitus, and in whom the rupture was followed by parametritis, peritonitis, and fatal pyæmia. Connection had frequently taken place, after the first occasion when the pain was very severe, notwithstanding the suffering that it produced. Dr. Himmelfarb thinks that vaginal rupture is more frequent than is commonly supposed in those cases of sudden pain from coitus where no sign of injury to the external parts exists, and that coitus is then the true cause of the injury. Dr. Frank, of Prague, has reported a case of rupture where there was a double vagina. The right half ended in a blind sac, while the left communicated with the uterus; the hymen on the right side and the septum were lacerated in coitus. He has also had a case of extensive laceration in a woman aged thirty-two. She recovered from the injury, which was certainly inflicted during connection. The entire subject is not without medico-legal interest and importance.

TRICHLORACETIC ACID IN THROAT DISEASES.

The testimony in favor of the use of trichloracetic acid in diseases of the throat is accumulating. In the *Lancet*, Ehrmann, of Heidelberg, is quoted in reference to his results in over a hundred recent trials. In one hundred and forty cases of chronic inflammation and of hypertrophic conditions of the various parts in the neighborhood of the pharynx and nares this remedy was employed with marked success. In one hundred and twenty-two cases he reports permanent cure. The method of its employment is twofold—as an escharotic and as an astringent. Hypertrophied tonsils and other parts may be reduced by rubbing them with a crystal of the acid, which has the effect of producing an eschar that is white, dry, smooth, and adherent. This eschar is thrown off much more slowly than that produced by chromic acid. Ehrmann observed no secondary inflammation or other unpleasant effects of any kind. If a merely astringent effect is desired, the acid should be dissolved in an equal weight of glycerin (or in double its weight), with the addition of a little iodine and iodide of potassium, and the mixture may be used to paint the throat with. The best results were obtained in follicular amygdalitis and chronic pharyngitis. At the last meeting of the New York State Medical Association, Fifth District Branch, Dr. Gleitsmann, of New York, reported that he had been pleased with the apparent results in the treatment of tonsillar disease with the acid, and that it was his purpose to extend his employment of the drug. In regard to the handling of the crystals of the acid, Ehrmann has found that a silver applicator which will hold the crystal firmly answers a very good purpose.

THE MURDER OF DR. LLOYD, OF FLATBUSH.

Dr. George W. Lloyd, assistant superintendent of the Kings County Asylum at Flatbush, has been murdered by a discharged lunatic, who was at the time in pursuit of the superintendent, Dr. Fleming. This took place on the evening of Thursday, the 9th instant. The murderer has declared that he had had no feeling of special animosity against Dr. Lloyd personally, but was actuated by a revengeful rage against all who had been instrumental in his former confinement, from the judge down to the subordinate attendants. Both Dr. Arnold and Dr. Fleming probably had a narrow escape from the same fate, since the maniac was armed with two fully loaded revolvers, and was in search of them when Dr. Lloyd was encountered and slain, a guiltless martyr, while engaged in the round of his professional duty. Dr. Lloyd was a painstaking and efficient official. The obvious reason why he was slain was that the men marked out for slaughter were not found conveniently at hand in the places of their customary resort, but the real reason was that somebody had blundered in allowing a violent lunatic to remain at large.

THE INDIGENT INSANE OF THE STATE OF NEW YORK.

It was to be expected that the State Commission in Lunacy would take all necessary measures for properly administering the new law committing the indigent insane to the care of the State, but it is none the less gratifying to meet with tangible evidence of the commission's activity. Elsewhere we publish the order issued by the president, Dr. Carlos F. MacDonald, regarding the transportation of the insane poor to the State hospitals, and we will mention an order by the commission to the effect that hereafter private patients in the State hospitals are not to be treated differently from public patients in respect to the care and accommodations furnished them.

THE CONVICTION OF AN ABORTIONIST.

The prompt conviction of Dr. McGonegal on the charge of having caused a young woman's death by criminal abortion, and his sentence to imprisonment for fourteen years, are reassuring signs that the machinery of the courts is not wholly untrustworthy as a means of curbing a crime that too often goes unpunished. Their significance is tempered, however, when we reflect that it was not so much the crime itself that seemed to be presented to the jury as the peculiarly heartless way in which the accused was shown to have carried out his measures.

A RUSSIAN INSTITUTE OF BACTERIOLOGY.

It is announced that a Pasteurian Institute is to be established at St. Petersburg, through the generosity of Prince Peter Oldenbourg. The building, on Apothecary Island, is nearly completed, and will be known as the Institute of Experimental Medicine. The conduct of the studies in regard to rabies and contagious diseases generally will be intrusted to specialists in bacteriology, chemistry, biology, and veterinary science.

"SUNDOWN DOCTORS."

This is the appellation said to be applied in the city of Washington to a class of practitioners who are clerks in the Government offices, and who have taken a medical degree with a view to practicing after the hours of their official work are over.

A MISSIONARY HOSPITAL IN SITKA.

Dr. Clarence Thwing, of Brooklyn, has accepted an invitation to establish one or more missionary hospitals in Alaska, beginning at Sitka. He was graduated about three years ago, since which time he has been engaged in special courses that will fit him for his new and responsible berth. His father, also a physician and a clergyman as well, has become known through his advocacy of the establishment at Hong Kong of an asylum for the insane, which, if he succeeds, will be the first of its kind on Chinese soil.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 14, 1890:

DISEASES.	Week ending Oct. 7.		Week ending Oct. 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	39	3	45	16
Scarlet fever	28	1	25	5
Cerebro-spinal meningitis	2	2	0	0
Measles	43	4	79	6
Diphtheria	57	13	46	15

Alleged Danger in Artificial Celluloid Eyes.—"Dr. Meurer, of Lyons, warns physicians against the use of artificial eyes made of celluloid. They are cheap and of good appearance, and for the first three or four months render good service. After this, however, they undergo chemical changes, and set up a high degree of irritation. Meurer has repeatedly overcome the resultant inflammation by antiseptic treatment and suspending the use of the artificial eye. So soon as the old eye was again used the inflammation returned, but on using a glass eye the parts remained normal."—*Druggist's Circular and Chemical Gazette.*

Change of Address.—Dr. P. Flewellen Chambers, to No. 26 West Forty-seventh Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 27 to October 11, 1890:*

Phillips, John L., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 164, July 16, 1890, from this office, is extended two months. Par. 3, S. O. 228, A. G. O., Washington, September 29, 1890.

Owen, W. O., Jr., Captain and Assistant Surgeon, in view of the abandonment of Fort Gibson, Indian Territory, to which post he is at present assigned for station, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Fort Sill, Indian Territory, and report to the commanding officer for duty. S. O. 155, Department of the Missouri, September 27, 1890.

Phillips, J. L., Captain and Assistant Surgeon, in view of the abandonment of Fort Crawford, Colorado, to which post he is at present assigned for station, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Fort Logan, Colorado, and report to the commanding officer for duty. Par. 4, S. O. 155, Department of the Missouri, September 27, 1890.

Tesson, Louis S., Captain and Assistant Surgeon, Fort Sidney, Nebraska. Leave of absence for twenty days, to take effect when his services can be spared by his post commander, is granted. S. O. 72, Department of the Platte, September 25, 1890.

Crampton, Louis W., Captain and Assistant Surgeon (Fort Sheridan, Illinois). Leave of absence for one month, to take effect about October 1, 1890, is granted. Par. 2, S. O. 80, Division of the Missouri, September 30, 1890.

Byrne, Charles C., Lieutenant-Colonel and Surgeon, is relieved from duty as attending surgeon at the Soldiers' Home, near this city, and will report in person to the commanding officer, Fort Sam Houston, Texas, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Purveyor, Medical Director of the Department, is granted leave of absence for one month. Par. 3, S. O. 86, Department of Texas, October 3, 1890.

Reed, Walter, Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from further duty at Mount Vernon Barracks, Alabama, and assigned to duty as Attending Surgeon and Examiner of Recruits at Baltimore, Md. Par. 7, S. O. 233, A. G. O., Washington, D. C., October 4, 1890.

Gibson, Robert J., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for three months, to take effect on being relieved from duty at Fort Trumbull, Connecticut, by Major Henry M. Cronkhite, Surgeon. Par. 12, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Macauley, C. N. Berkeley, Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Supply, Indian Territory, and will report in person to the commanding officer, Fort Lewis, Colorado, for duty at that station. Par. 2, S. O. 233, A. G. O., Washington, D. C., October 4, 1890.

Benham, Robert B., Captain and Assistant Surgeon, will, by direction of the Secretary of War, proceed from Fort Hamilton, New York, to Mount Vernon Barracks, Alabama, and report in person to the commanding officer of that post for temporary duty, relieving Captain John J. Cochran, Assistant Surgeon, who will return to his proper station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Ebert, Rudolph G., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Angel Island, California, to take effect upon the arrival at that post of Major William H. Gardner, Surgeon, and will then proceed to Vancouver Barracks, Washington, and report for duty to the commanding officer of that post for duty. Par. 15, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Gardner, William H., Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Washington Barracks, D. C., to take effect on the arrival of Major Joseph K. Corson, Surgeon, and will report in person to the commanding officer, Angel Island, California, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Wood, Leonard, First Lieutenant and Assistant Surgeon. The leave of absence granted in S. O. 74, August 30, 1890, Department of California, is, by direction of the Secretary of War, extended one month. Par. 7, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Hubbard, Van Buren, Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Columbus Barracks, Ohio, and will report in person to the commanding officer, Fort Spokane, Washington, for duty at that station, relieving Captain Henry S. Purrill, Assistant Surgeon. Captain Purrill, on being relieved by Major Hubbard, will report in person to the commanding officer, Madison Barracks, New York, for duty at that station, relieving Major John D. Hall, Surgeon. Major Hall, on being relieved by Captain Purrill, will report in person to the commanding officer, Fort Canby, Washington, for duty at that station. Par. 8, S. O., 232, A. G. O., Washington, D. C., October 3, 1890.

By direction of the Secretary of War, the following changes in the stations and duties of officers of the Medical Department are ordered:

Sternberg, George M., Major and Surgeon, is relieved from duty as Attending Surgeon and Examiner of Recruits at Baltimore, Md., and as a member of the Army Medical Board appointed to meet in New York city, N. Y., and will repair to San Francisco, Cal., and take charge of the Medical Purveying Depot at that place, as Acting Assistant Medical Purveyor, relieving Colonel B. J. D. Irwin, Surgeon. Colonel Irwin, on being thus relieved, will report in person to the commanding general, Department of the Columbia, for assignment to duty as Medical Director of that department and as Post Surgeon, Vancouver Barracks, Washington, relieving Major William E. Waters, Surgeon, now Post Surgeon, and temporarily in charge of the Medical Director's office. Major Waters, on being thus relieved, will report in person to the commanding officer, Fort Custer, Montana, for duty at that station. Par. 8, S. O. 232, A. G. O., October 3, 1890.

Munn, Curtis E., Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Angel Island, California, and will report in person to the commanding officer, Fort Monroe, Virginia, for duty at that station, relieving Major John Brooke, Surgeon. Major Brooke, on being relieved by Major Munn, will report in person to the commanding officer, Fort Leavenworth, Kansas, for duty at that station, relieving Major Alfred A. Woodhull, Surgeon. Major Woodhull, on being relieved by Major Brooke, will report in person to the commanding officer, Fort Sherman, Idaho, for duty at that station. Par 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Borden, William C., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Sam Houston, Texas, upon the arrival of Lieutenant-Colonel C. C. Byrne, Surgeon, and will report in person to the commanding officer, Fort Davis, Texas, for duty at that station, relieving Captain Peter R. Egan, Assistant Surgeon. Captain Egan, on being relieved by Captain Borden, will report in person to the commanding officer, Fort Warren, Massachusetts, for duty at that station, relieving Captain George McCreery, Assistant Surgeon. Captain McCreery, on being relieved by Captain Egan, will report in person to the commanding officer, Fort Clark, Texas, for duty at that station, relieving Captain Charles M. Gandy, Assistant Surgeon. Captain Gandy, on being relieved by Captain McCreery, will report in person to the commanding officer, Fort Shaw, Montana, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Finley, James A., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Totten, North Dakota, and will report in person to the commanding officer, Jefferson Barracks, Missouri, for duty at that station, relieving Captain William D. Crosby, Assistant Surgeon. Captain Crosby, on being relieved by Captain Finley, will report in person to the commanding officer, Fort Pembina, North Dakota, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Taylor, Arthur W., Captain and Assistant Surgeon, is, by direction of the Secretary, relieved from duty at Fort Wingate, New Mexico, to take effect on the expiration of his present sick leave of absence, and will report in person to the commanding officer, Fort Adams, Rhode Island, for duty at that station, relieving Captain J. J. Cochran, Assistant Surgeon. Captain Cochran, on being relieved by Captain Taylor, will report in person to the commanding officer, Camp Eagle Pass, Texas, for duty at that station, relieving First Lieutenant Paul Clendenin, Assistant Surgeon. Lieutenant Clendenin, on being relieved by Captain Cochran, will report in person to the commanding officer, Fort Brady, Michigan, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Smith, Allen M., First Lieutenant and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Snelling, Minn., and will report in person to the commanding officer, Fort Assinniboine, Mont., for duty at that station, relieving Assistant Surgeon Paul Shillock. Lieutenant Shillock, upon being relieved, will report in person to the commanding officer, Fort Custer, Mont., for duty at that station, relieving Captain William R. Hall, Assistant Surgeon. Captain Hall, upon being relieved by Lieutenant Shillock, will report in person to the commanding officer, Fort Schuyler, N. Y., for duty at that station, relieving Captain Norton Strong, Assistant Surgeon. Captain Strong, on being relieved by Captain Hall, will report in person to the commanding officer at Fort Meade, South Dakota, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Cronkhite, Henry M., Major and Surgeon, is, by direction of the Secretary of War, relieved from duty at Fort Lewis, Colo., and will report in person to the commanding officer, Fort Trumbull, Conn., for duty at that station, relieving Captain Robert J. Gibson, Assistant Surgeon. Captain Gibson, on being relieved from duty by Major Cronkhite, will report in person to the commanding officer, Fort Sam Houston, Texas, for duty at that station. Par. 8, S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

Appointment.

Vollum, Edward P., Colonel and Surgeon, to be chief medical purveyor with the rank of colonel. August 28, 1890.

Promotions.

Morris, Edward R., Assistant Surgeon, September 17, 1890, to be Assistant Surgeon, U. S. Army, with the rank of Captain, in accordance with the act of June 23, 1874.

Irwin, Bernard J. D., Lieutenant Colonel and Assistant Medical Purveyor, to be surgeon with the rank of colonel. August 28, 1890.

Fryer, Blencowe E., Major and Surgeon, to be assistant medical purveyor with the rank of lieutenant colonel. August 28, 1890.

Cowdrey, Stevens G., Captain and Assistant Surgeon, to be surgeon with the rank of major. August 28, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 11, 1890:*

Braisted, William C., Detroit, Mich., appointed an assistant surgeon in U. S. Navy.

Wales, P. S., Medical Director. Detached from temporary duty as member of Medical Examining Board.

Ames, H. E., Passed Assistant Surgeon. Detached from temporary duty as member of Medical Examining Board.

Herndon, C. G., Surgeon. Ordered to Naval Hospital, New York.

Persons, R. C., Surgeon. Detached from Naval Hospital, New York, and to wait orders.

Scott, H. B., Passed Assistant Surgeon. Ordered before the Retiring Board.

Price, A. F., Surgeon. Detached from Naval Dispensary, Washington, D. C.

Anderson, Frank, Passed Assistant Surgeon. Ordered to Naval Dispensary, Washington, D. C.

White, C. H., Medical Inspector. Ordered to hold himself in readiness for duty on U. S. Steamer San Francisco.

Braisted, W. C., Assistant Surgeon. Ordered to Army and Naval Hospital, Hot Springs.

Spratling, L. W., Assistant Surgeon. Ordered to hold himself in readiness for orders to the U. S. Steamer San Francisco.

Siegfried, C. A., Surgeon. Ordered to the U. S. Training-ship New Hampshire.

Blackwood, N. P., Assistant Surgeon. Detached from duty in the Bureau of Medicine and Surgery, and granted leave of absence.

Stone, L. H., Assistant Surgeon. Detached from the U. S. Steamer New Hampshire and to wait orders.

Edgar, John M., Passed Assistant Surgeon. Ordered to hold himself in readiness for duty on the U. S. Steamer San Francisco.

Gardner, J. E., Passed Assistant Surgeon. Detached from the Albatross and to wait orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service from September 8, 1890, to October 4, 1890:*

Hutton, W. H. H., Surgeon. Detailed as chairman Board of Examiners. October 2, 1890.

Long, W. H., Surgeon. Detailed as member Board of Examiners. October 2, 1890.

Purviance, George, Surgeon. Granted leave of absence for thirty days. September 10, 1890.

Godfrey, John, Surgeon. Detailed as recorder Board of Examiners. October 2, 1890.

Wheeler, W. A., Passed Assistant Surgeon. To proceed to New Orleans, La., for temporary duty. October 3, 1890.

Banks, C. E., Passed Assistant Surgeon. Granted leave of absence for twenty days. October 3, 1890.

Ames, R. P. M., Passed Assistant Surgeon. To proceed to New Orleans, La., for duty. September 13, 1890.

Pettus, W. J., Passed Assistant Surgeon. To proceed to Vineyard Haven, Mass., for temporary duty. October 1, 1890.

Hussey, S. H., Assistant Surgeon. To proceed to New Orleans, La., for temporary duty. September 19, 1890. To proceed to Norfolk, Va., for temporary duty. October 3, 1890.

Wertenbaker, C. P., Assistant Surgeon. Granted leave of absence for twenty days. September 12, 1890.

Perry, J. C., Assistant Surgeon. Upon expiration of leave to rejoin station at Mobile, Ala. September 29, 1890.

Young, G. B., Assistant Surgeon. To proceed to Memphis, Tenn., for temporary duty. September 13, 1890. To rejoin station, St. Louis, Mo., when relieved at Memphis, Tenn. October 3, 1890.

Society Meetings for the Coming Week:

Monday, *October 20th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *October 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings, St. Lawrence (semi-annual), and Westchester (White Plains), N. Y.; Ogdensburgh, N. Y., Medical Association; Hunterdon, N. J., County Medical Society (Flemington); Baltimore Academy of Medicine.

Wednesday, *October 22d:* New York State Medical Association (first day—New York); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.; Philadelphia County Medical Society.

Thursday, *October 23d:* New York State Medical Association (second day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *October 24th:* New York State Medical Association (third day); Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *October 25th:* New York Medical and Surgical Society (private).

Letters to the Editor.

THE VIRGINIA STATE MEDICAL SOCIETY.

221 West Twenty-third Street, New York, *October 8, 1890.*

To the Editor of the New York Medical Journal:

Sir: Will you kindly permit me to correct several errors made by your reporter in his abstract of my remarks before the Virginia State Medical Society which are found on page 385 of the Journal? I am no doubt partly responsible for these errors, as I failed to make my meaning plain in *extempore* discourse. In the first place, I did not intend to convey the idea that rheumatism was a frequent sequel of puerperal malarial fever. What I did say was, in an illustrative case of puerperal malarial fever which I narrated, that *acute articular rheumatism* developed subsequently, and that a number of times I had observed this latter disease as a complication of the puerperal state, but *not* frequently. Secondly, in speaking of Mr. Tait's views upon the subject of extra-uterine pregnancy, I insisted that this surgeon had introduced elements of confusion by not distinguishing between retro-uterine hæmatocele properly so called and a free effusion of blood into the peritoneal cavity, and that what he called an *intraperitoneal hæmatocele* was not an *hæmatocele* at all, but simply an escape of blood into the peritoneal cavity. Again, I insisted that the term *extraperitoneal hæmatocele* ought to be discarded, and the name *hæmatoma* used for the escape of blood into the connective tissue of the broad ligaments; and that these distinctions were of the utmost importance in order to understand the relations of tubal pregnancy to *hæmatocele* or *hæmatoma.*

George Tucker Harrison, M. D.

DOBISCH'S LOCAL ANÆSTHETIC.

Home for Habitués, Brooklyn, *October 8, 1890.*

To the Editor of the New York Medical Journal:

Sir: The new local anæsthetic first commended by Dobisch, of Zwittau, has served me so well that I think the Journal readers may be glad to know of it. Its make-up is:

Menthol........................	1 drachm;
Chloroform....................	10 drachms;
Ether..........................	15 "

Used as spray.

Though never pushed to complete anæsthesia, it is said to freeze the part in a minute. I have found it very effective in superficial neuralgia, especially about the head; and if, added to its local use, a thin kerchief is placed over the face and the spray thrown on the nose and mouth, enough general effect—yet quite within a safe limit—can be got to add not a little to the local good. J. B. Mattison, M. D.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Fifteenth Annual Meeting, held in Buffalo, September 16, 17, and 18, 1890.

The President, Dr. John P. Reynolds, of Boston, in the Chair.

The Diagnosis, Pathology, and Treatment of Extra-uterine Pregnancy.—Dr. A. W. Johnstone, of Danville, Ky., opened a discussion of this subject with an elaborate paper. He stated that the amœboid state was the first picture in the life of all viviparous animals. Immersed in a properly tempered and proportioned nutrient fluid, all alike, from the first segmentation, went on to the formation of the hypoblast, the epiblast, and finally the mesoblast. All after the same plan, with slight modifications, progressed in the formation of their envelopes and temporary organs necessary to intramaternal existence; but, up to a certain point, all that was required of the mother was that she should furnish this properly conditioned fluid. The writer's studies in comparative anatomy had forced him to the conclusion that, in the lower animals, excepting the anthropoids, at no time but when the "rut" was on could this nourishing lymph be furnished, and, without this, pregnancy was out of the question. In the human being and in certain monkeys the "rut" was sempiternal, and, as a matter of fact, the endometrium was ever ready to furnish the necessary nutrient fluid. Pregnancy might, therefore, occur at any time. This nutrient fluid came from the adenoid tissue lining the uterine cavity and the Falloppian tubes. Even the most remote fimbria was possessed of this lining. Strip off the cilia from the epithelium of the tube, and there was left a condition quite analogous to that of the lining of the uterus. These cilia were extremely delicate. He could not believe that ectopic pregnancy could occur unless there was some abnormity in the genital tract. Anything within or without the tube that caused loss of the epithelium, and consequently of the cilia, was sufficient to produce a spot to which the ovum might adhere. Ovarian pregnancy, if there was such a thing, must arise from a peculiar condition. The practical question was, Could ectopic pregnancy be diagnosticated before rupture? The patient did not seek the physician before the occurrence of severe pain, and every colicky pain meant a giving way of some part of the tube. Sometimes the first rupture broke a blood-vessel, but the rule was that hæmorrhage did not occur until the second or third attack. After the discovery of an extra-uterine pregnancy, laparotomy was the only procedure in any sense warrantable. The growth of the gestation sac could not be arrested until the placenta was killed, and the death of the child did not necessarily insure the death of the placenta. Electrical treatment, once so much admired, was wrong in principle, dangerous in practice, and disastrous in its final results.

Dr. Matthew D. Mann, of Buffalo, stated that the view that union of the male and female elements of generation must take place in the uterus was erroneous. In ectopic pregnancy the union must occur in or beyond the tube, and most of these pregnancies were primarily tubal. So far as abdominal pregnancies were concerned, the subject was still *sub judice*. There was no rational doubt as to the existence of ovarian gestation. Electricity was of great value ordinarily, for, if the embryo was destroyed, rupture would not occur. After rupture, laparotomy was clearly indicated.

Dr. J. M. Baldy, of Philadelphia, stated that it must be considered that he based his arguments on the supposition that conception had taken place in the tube. He did not wish to place himself on record as denying the possibility of an ovarian or an abdominal gestation, but, whatever the condition might be in the earlier stages, the symptoms were so similar that their distinction was quite out of the question. The following symptoms might be classified as significant or strongly suggestive of ectopic pregnancy: 1. A spurious flow, simulating menstruation, which was at first lighter and afterward darker than the normal menstrual discharge, and which contained clots and shreds. 2. Pain, intermittent and cramp-like, and becoming more severe and more frequent. The situation of this pain was invariably in the pelvis and low in the abdomen, and it might be sufficiently severe to produce syncope. It was usually the symptom that caused the patient to seek her physician, and, in conjunction with the pseudo-menstrual flow, might be accepted as pointing strongly toward the existence of extra-uterine pregnancy. 3. The discharge of shreds of decidua, with or without clots. 4. The general signs of pregnancy. 5. Occasionally the history of a sterility following normal labor or a miscarriage. 6. The vaginal discoloration as in normal pregnancy. 7. The cervix was sometimes appreciably enlarged and the os uteri patulous, but this was not invariably the case. 8. The fundus of the uterus was enlarged and softened and crowded either forward against the pubic bone or to one side. It was more or less immovable and had a feeling of softness. As in the case of the cervix, these conditions were not constant. 9. The uterine appendages sometimes showed a cyst on one side, while an inspection of the other side gave a negative result. The cyst, even if pulsating, was not a positive diagnostic sign. 10. The patient's belief as to whether she was or was not pregnant was quite important in making a diagnosis. 11. In some cases an elevated temperature and an accelerated pulse. 12. At the period of rupture great pain, collapse, and all the signs of internal hæmorrhage. The speaker stated that three propositions were justified by his experience and that of other gynæcologists: 1. In a certain proportion of cases of extra-uterine pregnancy, in the early stages, the diagnosis was easy and unmistakable. 2. In a certain (quite large) proportion of cases sufficient symptoms were present to lead to a diagnosis of extra-uterine pregnancy, although such a pregnancy was not present. 3. In a certain proportion of cases the symptoms, until rupture had occurred, were entirely wanting or of such dubious character as in no wise to warrant a diagnosis of ectopic pregnancy.

A very large number of cases terminated fatally, which rendered expectant treatment somewhat hazardous and made active measures essential. When the diagnosis was reasonably certain, laparotomy was indicated. It was a noticeable fact that many of the physicians who, a year ago, had been among the most ardent admirers of electrical treatment for extra-uterine pregnancy, now seemed to support laparotomy.

A case of tubal gestation with rupture was reported by Dr. Charles Jewett, of Brooklyn, as having occurred in the practice of Dr. F. A. Jewett.

Dr. A. J. C. Skene, of Brooklyn, believed that it was highly important that a diagnosis should be made in all cases of extra-uterine pregnancy with equal certainty, whether the treatment contemplated was that by electricity or by laparotomy, in order that patients *in extremis* might be cared for intelligently. He was firmly convinced that extra-uterine pregnancy was as easily diagnosticated as any known affection of the female pelvic organs, if there was no complication of other pelvic disease. In regard to the treatment with electricity, the speaker expressed the regret that it should have been so heatedly and doubtfully discussed, and that it should have received such merciless condemnation from the advocates of laparotomy, and he believed that such acrimonious discussions would never lead to determining the true value of either method of treatment. He had seen no evidence that electricity was especially dangerous, and believed that it could be employed with entire safety, and its failing to cure did not prejudice in the least the resort to laparotomy. The laparotomists said that their operation must be done by "competent hands." Considering that the cases for laparotomy were emergency cases, perhaps if they examined the histories of the cases that had been operated upon by presumably "competent hands," they would not be so ready to condemn electricity.

Dr. W. W. **Jaggard**, of Chicago, was sure that the existence of ovarian pregnancy had been proved. A great many cases of so-called tubal pregnancy were simply hæmatoma of the tubes, and many cases of so-called hæmatosalpinx were really tubal pregnancies.

Tubal pregnancy had three terminations: 1. Death before rupture. 2. Rupture. 3. Going on to term. When the tube ruptured, the following subterminations might be observed: 1. Rupture into the broad ligament, with the formation of hæmatoma of the broad ligament. 2. After rupture, the ovum might remain *in situ* and plug up the opening. 3. Rupture with the formation of a retro-uterine hæmatocele. 4. Rupture into the abdomen with intraperitoneal hæmorrhage. With the exception of the last, all these were favorable terminations, and as a rule tubal pregnancy with rupture would end in recovery if left alone. He agreed perfectly with Dr. Skene in regard to the diagnosis being easy in uncomplicated cases. It should be noted that the typical cases of extra-uterine pregnancy occurred in old multiparæ with a long interval between pregnancies, or in primiparæ who had been sterile for a long time. The evidence in favor of laparotomy, where the diagnosis was made before rupture, was conclusive.

There were the following objections to the use of electricity: 1. Danger of rupturing the sac. 2. Uncertainty in diagnosis. 3. After the eighth week it was hopeless to expect resorption of the fœtus or the placenta. He agreed, however, with Dr. Skene that it was well to be temperate in the condemnation of electricity. The proposition that every case of tubal pregnancy with rupture called for laparotomy was erroneous, and had proved most disastrous in practice. The principal indication for laparotomy was free intraperitoneal hæmorrhage. In the event of hæmatoma of the broad ligament or of rupture of the tube, the clot acting as a tampon, the indications were all strongly against laparotomy.

Dr. Howard A. **Kelly**, of Baltimore, beliered it was possible to recognize the following forms of extra-uterine pregnancy: 1. Interstitial. 2. Tubal. 3. Tubo-ovarian (doubtful). 4. Ovarian (proved beyond a doubt). 5. Primary abdominal (remaining to be proved). Tubal gestation might be divided into isthmial, isthmio-ampullar, and ampullar, according to the relative position of the tube. The criterion of ovarian pregnancy was an extra uterine fœtal sac, which must have the same relation to the uterus as the ovary had, the tube remaining intact and the ovarian ligament connecting the side of the sac with the uterus being present. A positive diagnosis of extra-uterine pregnancy could be made if the following symptoms were present: 1. Cessation of menstruation followed by its irregular recurrence. 2. Pain in the lower part of the abdomen. 3. A fluctuating tumor. 4. Enlarged uterus (not always present). 5. A discharge of membrane, which was very characteristic. 6. Milk in the breasts. 7. A tumor diminishing in size under observation, a pathognomonic sign rarely present, unless electricity was used, which of course implied the death of the fœtus. There was a class of doubtful cases where some of the symptoms were present, and there was still another class of uncertain cases where there were no signs, and they were generally discovered accidentally. If he found a freely movable tumor in the abdomen, he would perform laparotomy; but, if the tumor had ruptured into the broad ligament, he would use electricity and wait for results up to the end of the third month. He would not consider the life of the fœtus to the detriment of the life of the mother, but consider the fœtus simply as a malignant foreign body. If there was a living fœtus at term, he would open the abdomen, and if it proved to be an unruptured tube, with the placenta enucleated in the sac, the latter could be removed and the life of the fœtus saved. If the placenta was attached to the intestines, he would remove the fœtus and drop the funis back into the abdominal cavity, and afterward perform laparotomy if necessary.

Dr. Hunter **Robb**, of Philadelphia, believed that the tubes were the most frequent site of fecundation, but that ovarian pregnancies did take place, and agreed with Dr. Jaggard that microscopical examination was alone reliable in determining this condition. He believed the diagnosis as easy as that of fibroid or parovarian cyst.

Dr. Joseph Taber **Johnson**, of Washington, remarked that a paper of Dr. Hanks's, read before the society in 1888, had given the histories of eleven cases, with the statement that a diagnosis ought to be possible in ninety or ninety-five per cent. of all cases; that he believed in electricity in the beginning and operation afterward if necessary. He thought electricity would kill the fœtus, and that in all cases of rupture laparotomy should be done at once.

Dr. A. H. **Buckmaster**, of Brooklyn, thought it would be a fatal blow to the use of electricity in these cases if it should be proved that it could not accomplish the destruction of the fœtus.

Dr. J. A. **Temple**, of Toronto, related a case of extra-uterine gestation in which he had removed the tumor and tube without rupture. The patient made a good recovery and the stitches were taken out on the sixth day. On the eighth day she had a severe attack of mania; on the twelfth day she became semicomatose and did not recover consciousness; and on the twenty-third day she died perfectly insensible. He was confident that she did not die from septicæmia or any similar affection as the result of the operation.

Dr. **Mann** reiterated the views expressed in his paper in regard to the specimen which he presented two years ago, and still held the case to have been one of true ovarian pregnancy. His opinion in regard to the use of electricity in properly elected cases was also unchanged.

Under what Conditions can Electricity be of Positive Service to the Gynæcologist?—A paper on this subject, by Dr. Andrew F. **Currier**, of New York, was read by title. We are indebted to the author for the following abstract of the paper:

The testimony upon this subject is conflicting. Some have opposed it from prejudice and bias, and others have advocated it with an enthusiasm which revealed indiscretion and unwisdom. Satisfactory knowledge can be gained only by experience, and this necessitates no little expense for the apparatus and time and labor in order to comprehend the physical laws governing electricity. As in religion, art, science, and politics, success only comes as a rule to those who follow up the subject persistently and thoroughly. The patient also must submit to such conditions as will permit of a fair test of the agent. The subject is considered under three headings:

A. Necessary outlay and apparatus.

B. Indications.

C. Contra-indications, cautions, and objections.

The faradaic current is indicated when one desires increased muscular tone or contractile force. Incidentally will come improved vascularity and nerve energy. The galvanic current is indicated as an astringent, hæmostatic, denutrient, adnutrient, or sedative. For some conditions, for example pain, either current may be effective. All battery currents are based upon Ohm's law that the available battery force equals the entire force generated by all the cells divided by the resistance offered by the wires, the fluid in the cells—in fact, everything which hinders the passage of the current. The unit of usable current in electro therapeutics is the milliampère. The requirements for a faradaic battery are that it be small, simple, clean, and cheap. Gaiffe's costs but a few dollars and is perhaps the best there is. The requirements for a galvanic battery are steadiness of current, cleanliness, simplicity of construction, and durability. The writer has never found a portable battery that answered these requirements, but does not assert that they do not exist. To answer the conditions mentioned there should be a large number of large cells in continuous connection. Either the Law or the Leclanché cells will give satisfaction, the former being more cleanly and more durable. A rheostat and a milliampèremeter are indispensable, and the writer is well pleased with the Bailey rheostat and the Barrett meter graduated to 250. The connecting cords from battery to patient should be long enough for the patient to be moved about without danger of breaking the circuit and giving a shock. For an abdominal electrode Martin's is the best. There are many varieties of vaginal and uterine electrodes, those designed by Apostoli being very good ones. The writer has designed one of aluminium, with a cylindrical removable platinum tip, the shaft being covered with thin rubber tubing. It is light, cheap, and flexible.

The rheostat and meter may rest upon a portable base furnished with suitable binding posts and a switch for changing polarity. The character and effect of the current at the two poles are essentially different. The positive pole will check hæmorrhage and glandular secretion; the negative will not; the positive pole will corrode all but the noble metals; the negative will not. The positive pole is acid; the negative alkaline. At the positive pole oxygen is liberated in the electrolysis of water; at the negative, hydrogen.

The writer's paper contains an analysis of twenty-three cases in which the indications for treatment were: 1. Pain. 2. Hæmorrhage. 3. Inflammatory exudate. 4. Sterility. 5. Dysmenorrhœa. 6. Supersecretion. 7. Hysteria. 8. Uterine subinvolution. 9. Uterine subnutrition.

For pain the positive pole should be within the vagina or uterus, and a weak current is better than a strong one. A good average is 30 milliampères, used from five to eight minutes. The intervals of application should depend upon the duration of the periods in which pain is absent. Pain was relieved in two cases in which it persisted after removal of the uterine annexa, in one each of uterine myoma, pyosalpinx with ovarian apoplexy and endometritis, and two of pelvic peritonitis with exudation. For hæmorrhage the positive pole is believed to be unsurpassed. It was used in a case of interstitial myoma, and in one of malignant disease of the uterus and omentum. Four cases were treated for inflammatory exudate, and in three the exudate was disintegrated and absorbed. But as the diseased organs which had been confined by it became more mobile they also became larger and more sensitive. In five cases sterility was treated with the faradaic current. Impregnation and delivery resulted in two. Dysmenorrhœa may be relieved by either the positive galvanic pole or faradism. Three cases are narrated, but in only one was the result decidedly favorable. For supersecretion the positive pole is preferable to the powerful caustics and escharotics, and yielded good results in three cases. In two cases hysterical symptoms were much modified in addition to benefit which was derived for more palpable lesions.

Subinvolution was successfully treated in one case, the uterus contracting firmly upon the bipolar electrode of Apostoli, and with the faradaic current. Uterine subnutrition in connection with hard anteflexed uteri and usually associated with amenorrhœa, dysmenorrhœa, or sterility will be benefited by the faradaic current. Five patients were treated, and all but one received positive benefit. Under the head of cautions, contra-indications, and objections, nausea resulted in one case, and this observation has frequently been made by others. The passage of the galvanic current may cause faintness, which may be slight or profound, and dizziness. In a case of exophthalmic goître with rapid heart action collapse was imminent on two occasions. An irritable heart, such as is usually present in the last-mentioned disease, and certain chronic gastric disorders, contra-indicate the use of electricity. Malignant disease within the abdomen is a contra-indication, or at least proved so in one case. Small, dry electrodes should not be applied to the abdomen, but large, wet ones. The former will invariably produce burning. The method of rapid reversals of the galvanic current is of limited usefulness, and should not be used with nervous women. The shocks may be exceedingly harmful. The electro-puncture of fibroid tumors means possible sepsis with its consequences. If it is electricity and not inflammation and sloughing which reduce the nutrition of a tumor, it would seem to be unnecessary. Galvano-cauterization of the uterine mucous membrane seems to furnish the advantages of puncture without the danger. Electro-puncture is also disapproved of for hæmatoma and hæmatocele as dangerous, tedious, and inefficient as to its results. Electricity is the handmaid and not the mistress of surgery, a valuable assistant and increasing in value with experience, but one which demands rational, careful, and intelligent use.

(*To be continued.*)

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of September 22, 1890.

The President, Dr. A. S. Hunter, in the Chair.

The Initiation Fee.—Dr. C. H. Avery withdrew his motion to reduce the initiation fee from five dollars to one dollar in favor of an amendment to the By-laws recommended by the Comitia Minora to reduce the fee to two dollars. The Comitia also recommended that the editor of the *Medical Directory* be *ex officio* a member of the Comitia Minora.

Nominations.—Nominations were made as follows: For president, Dr. Andrew F. Currier, Dr. O. B. Douglas, Dr. J. L. Corning; for vice-president, Dr. J. L. Corning, Dr. A. M. Jacobus; for secretary, Dr. Charles H. Avery; for assistant secretary, Dr. W. E. Bullard; for treasurer, Dr. John S. Warren; for censors (five to be elected), Dr. George E. Abbott, Dr. William McLaury, Dr. A. S. Hunter, Dr. R. Van Santvoord, Dr. E. A. Maxwell, Dr. G. T. Jackson, Dr. S. O. Vander Poel, Dr. N. G. McMaster, Dr. W. C. Jarvis, Dr. W. Washburne, Dr. C. F. Milne, Dr. G. F. Carey.

The Diagnosis and Treatment of Certain Abdominal Diseases principally characterized by Symptoms of Peritonitis.—Dr. H. T. Hanks based a paper on this subject on experience gained within the past ten years, during which time the treatment of diseases characterized principally by symptoms of peritonitis had undergone considerable change, while much progress had been made in their diagnosis. He thought it wise to interrogate the viscera, one after another, in arriving at a diagnosis in not perfectly clear cases. Conjoined manipulation *per rectum* *et vaginam* was often necessary, and might be aided by a few whiffs of an anæsthetic. Experience had taught us that many cases which formerly would have been regarded as primary peritonitis could now be made out as secondary. He believed that only three cases of idiopathic peritonitis had ever come under his own observation, and in those the diagnosis had not been confirmed by an autopsy. The symptoms which formerly would have been regarded as diagnostic of peritonitis—pain in the abdomen, tympanites, rapid pulse, pinched face, etc.—it was now known might be due to perihepatitis, metritis, gastritis, acute congestion of the kidneys, etc., and the important question arose whether the former treatment of peritonitis (by opium) would cure such cases. Evidently it would not in many instances. How, for instance, could it be expected that large doses of opium would cure twisting of an ovarian pedicle, of which condition the chief symptoms might be those of peritonitis?

Where the surgical indications had not become clear, the author would treat a case characterized by symptoms of peritonitis with saline cathartics, sufficient codeine to give comfort (opium was objected to as being constipating in its effects), the ice coil where fever was high, and leeches; perhaps enemata might have to take the place of salines. The case should be constantly watched, since the abdominal surgeon might have to be called at any time. These remarks applied in a general way to appendicitis as well as to other conditions, and he could say that if the case was seen early an appendicitis could thus be made to undergo resolution; if, however, an abscess formed, an operation should be resorted to, although the mortality in operative cases had been very large.

Dr. A. Jacobi discussed the subject as applied to children, and said that peritonitis in the infant was about the same anatomically and pathologically, and largely ætiologically, as in the adult. He thought a large number of cases were mistaken for peritonitis which were of some other nature, while a still larger number were in reality peritonitis mistaken for some other condition. This had been shown in a paper he had once read before the Virginia State Medical Society. Many cases of so called stomach-ache in infants and adults were new or recurrent attacks of peritonitis. Agglutinations between the intestines were often found at autopsy which had not been suspected during life; they meant peritonitis. Old typhoid ulcers sometimes perforated and caused peritonitis. In many instances repeated belly-ache in children was due to perityphlitis. In chronic peritonitis, with acute or subacute attacks, the bowels should be supported by a snug bandage covering the whole abdomen. Regarding the old treatment by opium and the modern by purgation, there seemed a wide difference, which might perhaps be accounted for by different classes of cases. And where laxatives proved beneficial, was not a narcotic for rest demanded subsequently? He gave a laxative, followed it by opium, but admitted that he was sometimes unable to tell whether the stage had yet passed for a saline, and opium was demanded.

Dr. W. H. Thomson spoke of purulent peritonitis at the terminal stage of Bright's disease, which was so often overlooked until the body reached the post-mortem room. Among its indications was a rapid, small, incompressible pulse, with little or no elevation of the temperature. The incompressibility of the pulse was different from that pertaining to the kidney disease itself. He also mentioned the fact that in perforation during typhoid fever there was frequently no rise, perhaps a fall, of the temperature, which was due to sudden shock. The surgeon alone could here give relief. The pain in cirrhosis of the liver, common in alcoholics, was oftener due to peritonitis than to gastritis or gastro-duodenitis. He further said in connection with diagnosis that sudden pain followed by symptoms of general peritonitis was very different from steadily increasing pain, and pointed to perforation of a hollow viscus.

Dr. C. C. Lee said his remarks would be based chiefly on surgical experience. There were three classes of cases: 1. Those of septic nature, in which the cause of sepsis should be removed. When peritonitis of this nature developed after an abdominal operation there was likely to be remarkable absence of severe pain, due, he supposed, to the obtunding of the nerve centers by septic matter covering a large surface, the symptoms simulating malarial conditions. Many such cases were now saved by re-opening the abdomen while formerly they died. 2. What might be called acute traumatic peritonitis. In this class of cases abdominal surgeons were responsible for what he thought was a heresy in announcing that salines would be likely to result uniformly successfully. He had treated cases in that way vigorously, and had yet to see one do well in which the treatment was kept up, except there were obstruction by gas or fæcal accumulation. Now he began with a saline cathartic, then gave opium to quiet the bowels. He admitted the arguments in favor of codeine. The ice coil was useful only during the formative stage, and was contra-indicated after plastic deposit. 3. Secondary peritonitis. Here success required removal of the cause. He thought we would reach the period when there would be less abdominal surgery than to-day.

Dr. E. H. Grandin spoke of puerperal cases, and said that during his early professional career he at once began dosing the patient with opium, and she died. Now, when he saw his patients early they got well, and his treatment consisted in the use of salines and the avoidance of opium as far as possible. The vagina and uterus should be clean; if a pyosalpinx or ovarian abscess had ruptured, the surgeon would have to act.

Dr. Ralph Waldo had seen patients who had been treated successfully for an attack or repeated attacks of peritonitis by opiates, but, they being hyperæsthetic, the physician was led to continue the narcotic too long, and complications developed, such as fæcal impaction and digestive derangement. This occurred so frequently that it seemed necessary to say a word of caution.

Dr. R. A. Murray thought primary peritonitis occurred but seldom. Further, that severe attacks were infrequently recovered from, whatever the treatment. Probably most of us saw more of puerperal peritonitis than of any other kind, and treatment by either opium or laxatives failed simply for the reason that the cause was not removed—that is, sepsis. Where peritonitis was ushered in after laparotomy, by giving a saline one certainly took away the serum which furnished a nidus for germs; he should then quiet the bowels and enhance digestion by small doses of opium; or, if there was shock, give large doses, for opium was a powerful heart stimulant.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 2, 1890.

The President, Dr. Alfred L. Loomis, in the Chair.

The New Building.—The President, on calling the meeting to order, explained that, while the effort to have the new building ready for the opening work of the session had been successful, the formal inauguration would not take place until the second meeting in November, on the date fixed for the anniversary oration.

Skin Grafting after the Method of Thiersch.—Dr. Charles McBurney read a paper on this subject. After describing Reverdin's well-known method, the author went fully into the details of skin grafting as practiced by Thiersch and as modified by himself. According to Thiersch, all strong antiseptics were to be avoided in skin grafting, as the effect of these upon the cellular elements, upon the capillaries, and upon the blood itself was such as to seriously endanger and even prevent the immediate union between the grafts and the surfaces upon which they were placed. Thiersch himself used absolutely no solution except one of common salt in water, in the proportion of six parts to one thousand. The speaker was convinced of the importance of sterilizing this solution. It was his practice to use distilled water, boiling the solution before using it, and also to employ a solution of bichloride of mercury freely in disinfecting the ulcerated surface, as well as the surface from which the grafts were to be taken, completely washing away all of this solution with the saline one of Thiersch just before operating. The parts should be thoroughly washed with soap and water, and all hair should be removed by careful shaving. In some cases grafts might be placed with success directly upon the unbroken surface of healthy granulations, but a much more certain method of insuring success, and, according to Thiersch, one essential to the avoidance of subsequent contraction, was to remove, by curetting, the superficial layer of granulations, and also the tough cicatricial edge of the ulcer. A bleeding surface was thus produced on which many open capillaries existed, and which was very favorable to immediate union of the grafts. The author had found it more rapid and convenient to use the knife. With a sharp scalpel an incision nearly or quite through the true skin was rapidly made entirely around the ulcer just outside its thickened border. With the same instrument the whole area included by the incision was shaved off. A smooth, bleeding, healthy surface was thus produced. This surface was immediately irrigated with the sterilized salt solution and compresses of sterilized gauze were placed upon it to control bleeding.

The question of hæmorrhage at this stage of the operation was one of considerable importance. If grafts were placed while bleeding still went on, the risk of failure was much increased. Accumulations of blood, even small ones, beneath the grafts frequently induced their necrosis, and saturation of the dressings with blood was favorable to infection. But all ulcerations, and particularly those on the lower extremities, when shaved, were liable to bleed actively for a long time. The use of Esmarch's constricting band was found to entirely dispose of the question of hæmorrhage, to shorten the whole operation greatly, and not in the least to affect the vitality of the grafts. When, therefore, the situation of the ulcer was such that the band could be applied, it was put on above the whole field of operation, thus rendering the process a nearly bloodless one. The grafts might then be immediately applied and the dressings put on. The grafts themselves illustrated most decidedly the originality of the Thiersch method. They consisted of thin slices of skin, removed by shaving parallel with the surface. The author had found a broad razor with a very delicate edge the best instrument for this purpose. The most convenient points from which to take the grafts were the front and outer part of the thigh and the outer surface of the upper arm. Taking the razor, the operator wet it in the salt solution, and, applying the edge at the most distant part of the stretched skin, with a rapid sawing motion toward himself shaved off as thin, long, and wide a shaving as he could. Four or five inches in length and an inch in width were about the dimensions of a first-rate graft. The grafts might or could be of a variety of thicknesses, but no graft would do well that was thick enough to include fat upon its lower surface. As it was being cut the graft piled up on the razor. After it was separated from the skin, a few drops of the salt solution should be dropped on it, and the razor be immediately carried to the edge of the surface to be covered. With a probe, one end of the graft was then teased off the razor to the raw surface, and while it was held there the razor could be slipped from under it across the surface so as to unfold the graft and deposit it in place. The graft could then be readily adjusted with two probes. It should be so placed that its edge would follow up the perpendicular edge of the prepared surface and reach very slightly on to the uncut skin. In that manner graft after graft was placed, great care being taken that the edges were in neat apposition to one another, and were at no point folded under. From time to time a little salt solution should be sprinkled on the grafts already placed to prevent their becoming too dry, which would destroy their vitality. Strips of Lister protective or of thin rubber tissue, about an inch wide and long enough to a little more than cross the grafted surface, should then be laid on like shingles, overlapping one another over the entire area. These strips, previously sterilized in bichloride or carbolic-acid solution, just before using should be drawn through the salt solution. They should be gently pressed on the grafts, and then covered with some soft sterilized material, such as a compress. This substance should be wet in the salt solution and piled up over the protective; over this again a large piece of protective or rubber tissue should be applied to prevent rapid evaporation, and finally a well-applied gauze bandage. The surface from which the grafts were taken did well under the salt solution. After wetting the surface, the part was completely covered with rubber tissue and dressed with sterilized gauze. This method of dealing with the denuded surface had given entire satisfaction.

The variety of lesions to which Thiersch's method was adapted was very large. It included all ulcerations upon any part of the external surface. Those not familiar with the method would be surprised to see how perfectly and successfully these grafts could be applied to the surfaces produced by extensive operations for the removal of malignant and other tumors—to any raw surface, in fact, which could not be covered by the adjacent skin. It was astonishing to see the variety of tissue to which the grafts would adhere firmly. Muscle, fascia, cartilage, and even bone might all be successfully grafted. The most favorable surface was a clean muscular one, and the least, the surface of compact bone.

In one case, after the removal of an extensive carcinoma of the face, a large area of lower jaw was completely bared. Grafts laid over this surface had adhered almost perfectly throughout, and at the end of a week those that covered the bone were found to be soundly attached to it. In another case a surface several inches in diameter on the back of the forearm included a number of extensor tendons. The grafts applied were more than usually successful, and complete healing was rapidly attained. The breast cases were of special interest, as entire liberty could be taken in thorough removal of the disease, for the denuded surface could be covered without resorting to any plastic operation. Thiersch advised that the gauze placed immediately over the protective should be kept constantly moist with salt solution, and said that to effect this it was necessary to moisten the gauze every four hours. As this was very laborious, the author had extended the time to once in two days, and the cases treated in this manner had done very well. At the end of forty-eight hours the dressings were all removed except the protective, which lay next to the grafts. A fresh wet dressing was applied and changed again after two days. By that time there was usually some formation of pus, as it was unusual for a case to go on a whole week without some suppuration. It should be carefully removed and fresh dressing applied. It was the author's practice to leave the protective in place from ten to fourteen days, as the too early application of a dry dressing destroyed the vitality of the grafts. The author then reported twenty-five cases which represented a considerable variety, as regarded both the size and the character of the surface grafted. The length of time occupied in attaining sound healing had varied from a week to two months. In regard to the permanency of the grafts, his experience showed it to be remarkably good. While there was no contention made that Thiersch's grafting would prevent the return of malignant disease, it was certainly much to be desired that after all operations for malignant disease the wounds should be healed at the earliest possible moment, and the application of the method would not fail to convince one of its great value. A number of patients were then presented for inspection.

Dr. L. A. Stimson's experience with the method was, he said, comparatively limited. He admitted having always felt a certain want of confidence in it until he had learned of Dr. McBurney's recent successes. Since then he had employed it and had got some good results. His general experience with the employment of the method for the treatment of ulcers was that, while healing was often prompt, there existed a tendency to return of the trouble. He believed, however, that in cases in which large areas of surface were of necessity exposed, with great loss of substance, the method was destined to take the place of plastic operations. In inoperable cases of malignant disease in which much destruction of substance existed he had essayed the use of grafts upon the freshened surfaces, but so far without success. He thought if later experience showed that this could be satisfactorily done it would be a most desirable application of the method.

Dr. H. Knapp explained that he had witnessed grafting in Thiersch's clinic. In his own practice it was successful enough in operation upon the upper eyelid, but not so much so on the lower. The drawback was the enormous shrinkage which followed. It was his custom to adopt Wolfe's method.

Dr. P. A. Morrow said that he had used much thicker grafts than the mere superficial layer of skin. He had taken grafts that included the entire derma and subcutaneous tissue. He had recently thus repaired a scar of long standing upon a patient's scalp. He had used a small punch or trephine and had taken buttons of material from the opposite side and transplanted them into incisions in the scar tissue, fitting them with mathematical accuracy. Perfect union had resulted within a week. No dressings were used except gutta-percha over the site of the operation. Then he had taken portions of scalp a quarter of an inch thick from another individual. These also had united within a week, no suppuration ensuing. The new grafts had all continued to bear hairs luxuriously. It was usually difficult to obtain such material. He did not think that any tissue had ever been previously grafted to produce growth of hair. Such grafts had hitherto not been taken deep enough to include the essential elements of hair growth. In the experiments he had thus made there had been no indication of the breaking down of tissue. He thought the method he had described would have a range of applicability in such cases as circumscribed lupus, moles, warty growths, and so on. In the case he had described it had been almost impossible to discover the line of demarkation after healing. Of course he had not neglected the use of antiseptic precautions, such as the use of bichloride and carbolic acid.

Dr. Bulkley objected to Thiersch's method on the ground that the skin which covered the ulcer was of such thinness as to break down readily. He also thought that if the whole thickness of the skin was used a better result would be obtained. Reverdin's method had proved very satisfactory in his practice.

Dr. McBurney said that all the methods that had been mentioned had their special applications. The transplantation of buttons of skin seemed a very valuable plan, but of course such grafts could not be used over surfaces eight or ten inches in diameter or on ulcerated areas. He thought no method could equal Thiersch's in applicability to a wide range of requirements.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Meeting of October 3, 1890.

The President, Dr. George Armstrong, in the Chair.

A Case of Hodgkin's Disease.—Dr. R. L. MacDonnell exhibited a young man, aged twenty-five, a freight-checker, who was the subject of Hodgkin's disease. Up to four years ago the patient had enjoyed good health, but at about that time he began to suffer from a severe and prolonged attack of what was called bronchitis. There were severe attacks of dyspnœa, which came on on exertion and when he was at rest, and cough was very severe and brassy. He made a good recovery and continued well until two years ago, when he began to notice the presence of lumps in his neck. These gradually increased in size and number. Two months ago the breathing became seriously embarrassed, and suffocative attacks of the severest kind occurred, especially when he was in the recumbent posture. In the beginning of August he presented himself at the Montreal General Hospital suffering from attacks of dyspnœa and from a brassy cough. On August 11th a chain of glands was removed from the front of the trachea. These were found to extend very deep into the chest and were thought to be continuous with other enlarged glands in the mediastinum. He made a good recovery from the operation, and since then he had not suffered from any attacks of dyspnœa, though his breath was short on exertion and he still suffered from cough. He remembered that frequently when he was a boy there were large lumps in the arm-pit. Epistaxis had been frequent during the last six months. There was no history of any venereal disease. The glands in the left side of the neck were all enlarged, especially those situated behind the sterno-mastoid. They were prominent, distinct from each other, loosely attached, and of firm structure. There were two or three enlarged glands in each axilla, but none in the groin. The spleen was somewhat enlarged, but was not palpable below the ribs. The liver was of normal size. Examination of the urine yielded a negative result. The skin generally was clammy, but always on the left side of the forehead and face there was very free perspiration. The left pupil was much larger than the right. Physical examination of the heart and lungs revealed nothing. The temperature in the afternoon had generally been 1° or 1·5° above normal. The pulse was always between 100 and 110. No member of the family had ever suffered from enlarged glands. There was a large excess of white cells in the blood. For the last month Fowler's solution had been taken regularly, with an apparently good result. About a fortnight ago the patient had a severe syncopal attack.

After the members of the society had fully examined the patient Dr. MacDonnell stated that the diagnosis was no matter of doubt. The history of indolent enlargement of the glands extending along the course of the great vessels following the route described by Hodgkin, involving first the cervical and then traveling downward, together with the altered composition of the blood and the enlargement of the spleen, combined to complete the clinical picture. But the most interesting point in the case was the interference with the cervical sympathetic, as was shown by the dilated pupil, the unilateral sweating of the face, and the accelerated pulse. Interference with cardiac innervation probably accounted for the attacks of syncope.

Dr. H. S. Birkett had had the patient under his care previously to his admission into the Montreal General Hospital. He had examined him for the first time on the 6th of June last, when he complained of hoarseness, which had been present for the preceding two weeks. There was also considerable dyspnœa. Laryngoscopic examination proved the presence of small superficial ulcers situated one on the middle third of each vocal cord and directly opposed to each other. The base of each ulcer was pale and the surrounding tissue slightly hyperæmic. The pharynx was decidedly anæmic. The lymphatic glands in the neck were found to be enlarged, especially those about the sterno-mastoid, and so were the three lobes of the thyreoid. Thinking that this was a case of tuberculosis with laryngeal manifestations, Dr. Birkett had examined the lungs, but a careful examination failed to reveal any lesion. The temperature was slightly elevated (100°) and the pulse 96. This, in conjunction with the foregoing laryngeal condition, had led him to regard the case as one of localized tuberculosis, due probably to a cascating degeneration going on in the enlarged glands in the neck; but, in order to have more satisfactory proof, the sputum was examined by Dr. Wyatt Johnston, who reported absence of both tubercle bacillus and elastic tissue. The laryngeal condition was then regarded as one of chronic inflammation in which superficial ulceration had taken place. Before the report of the sputum was received the case was treated as one of tuberculosis, and lactic acid of varying strength was used. The ulcers having healed rapidly, Dr. Birkett had thought he had cured a case of tuberculosis of the larynx, but the result of the examination of the sputum put this idea to one side. About the 1st of August the dyspnœa began to increase, and laryngoscopic examination showed that there was pressure on the anterior wall of the trachea, due undoubtedly to an enlarged gland situated on the middle lobe of the thyreoid. As the dyspnœa continued to increase, surgical interference was advised.

Dr. Wesley Mills thought the case was one that seemed to teach some physiology, or at all events to illustrate some of the latest conclusions of that science. Was the disease of the glands, together with the symptoms referable to the iris and sweat glands, consequent on a disease of the nervous system expressing itself through the sympathetic nerves, or did they all arise from pressure or irritation of the sympathetic by the enlarged glands? Believing as he did that the whole function of nutrition was under the influence and direction of the nervous system, he would not exclude the lymphatic glands and other blood-forming organs. In this instance, however, it was possible to explain the dilatation, the localized sweating, and the rapid action of the heart by irritation of the sympathetic. The first and second could be imitated experimentally, and it had lately been shown by himself and others that the accelerator nerves of the heart had a definite course in most animals. They were given off either from the first thoracic or from the two lower cervical ganglia. Accelerator fibers ran in the vagus also. Possibly the syncope that had occurred had been due to cardiac exhaustion from overaction of the sympathetic, rather than to cardiac inhibition proper. It was likely that the most important of the accelerator branches in man were given off from the middle cervical ganglion.

Dr. Shepherd drew attention to the shape of the patient's neck, which he thought was peculiar to Hodgkin's disease, and described briefly the operation of removing the glands from the front of the trachea, which he had found a very difficult undertaking. The chain of glands had extended so deep that at the bottom of the incision the transverse arch of the aorta could be felt.

Fragilitas Ossium.—Dr. Roddick exhibited a boy of thirteen who had been the subject of twenty-seven fractures of the lower extremity. The first fracture was of the right thigh and occurred when the boy was a year old. Union took place after each fracture with abundant new growth of bone, but the more recent fractures refused to unite readily, and at present a false joint existed in the middle of the left femur. The fractures were produced by very slight violence and in most instances were quite painless. The cause of this condition could not be ascertained. The family history was very good. The brothers and sisters of the patient were in excellent health. Dr. Roddick proposed amputation, as both legs were utterly useless and atrophied to an extreme degree.

Exhibition of Patients on whom Osteotomy had been performed.—Dr. James Bell showed two children on whom, he had operated for the relief of genu valgum and for the opposite condition of bow-legs. The result had been excellent. In both patients the legs had been perfectly straightened. Their histories he related as follows:

Case I.—A healthy, strong boy, five years and a half old, was one of a family of several children all of whom had suffered from rickets and subsequent bony deformities, which, however, had all been fairly well outgrown and had not required operative or other treatment. The patient had suffered from rickets when two years and a half of age, and, on admission into the hospital (nearly three years later), presented marked deformity of all the long bones, the most conspicuous deformity being a very pronounced condition of genu valgum, so that the knees completely overlapped in walking. On the 5th of May, 1890, this deformity was corrected by a double osteotomy by Macewen's method. On section, the bones were found to be exceedingly hard and brittle. No bad symptoms followed, and the boy now walked without any apparent deformity.

Case II.—A boy, aged three years and a half, was brought to the hospital with very marked bow-legs. All the long bones were deformed, but the tibiæ and fibulæ most of all. There was great anterior convexity of the lower third of the tibiæ. Double linear osteotomy with section of both Achilles tendons was done on the 1st of June. On section, the bones were very soft and the deformities easily corrected. No bad symptoms followed and the child now walked perfectly and without evident deformity. This child had been well and strong and had straight, well-formed limbs until she was eighteen months old, when she became ill. The history was a typical one of rickets. She became unable to walk for a time, and when she was recovering, the bony deformities occurred.

Pathological Specimens.—Dr. Wyatt Johnston exhibited a myoma of the uterus and a myosarcoma of the uterus. These specimens were exhibited for Dr. Gardner. The first had been removed from a patient, twenty-five years of age, whom he had had under observation several years before, and for whom he had advised removal of the uterine appendages. The tumor was very large and very closely adherent to the structures, from which it was extremely difficult to separate it without causing severe hæmorrhage. In the second case the age of the patient was forty-two. The tumor had been of rapid growth, and was removed without any difficulty. The third specimen was a fibro-cystic tumor of the ovary. In this case the tumor was found to be freely movable, hard, and painful. The pelvis was filled with an immovable mass. Abdominal section was performed by Dr. Shepherd, who found the tumor covered by intestines and intimately adherent to the adjacent structures. The recovery of the patient had been uninterrupted. The fourth specimen was one of tuberculosis of the heart. It was from the body of a child that had died of general tuberculosis. The heart had become attacked, as was shown by a small tubercular nodule in one of the aortic valves.

Sudden Death in the Course of Mild Typhoid Fever.—Dr. McGannon, of Brockville, related the history of a girl, fourteen years of age, in whose family there were other cases of fever, but who, up to within a few days of her death, had been engaged in housework, though she felt ill. She was feverish when seen by Dr. McGannon, but no serious symptoms were present. Sudden death occurred by syncope. There was no autopsy.

New Inventions, etc.

THE UNIVERSAL NEEDLE FORCEPS.

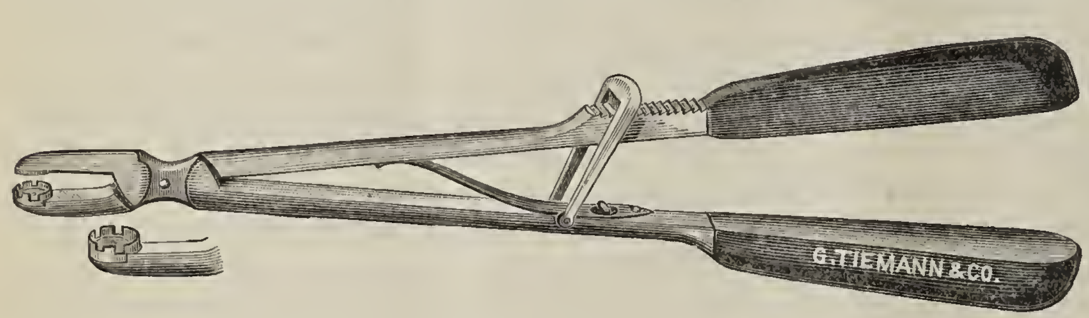
By O. G. Pfaff, M. D.,

CLINICAL LECTURER ON DISEASES OF WOMEN, MEDICAL COLLEGE OF INDIANA.

The Hagadorn is without doubt the most popular needle ever invented, and it has been also heretofore the most difficult to manipulate. The very few forceps which can be used at all with these needles almost without exception compel the operator to hold the needle at an exact right angle with his instrument. It is maintained by some that nothing more is required. In most instances this is true, but the demands of the exceptional cases are imperative, and the comfort of the operator promotes the patient's welfare.

The ideal needle forceps should hold any kind of needle whatever, of any shape or size, in any position which the operator may find most convenient.

I have devised such an instrument, which is made by Tiemann & Co., of New York. It fulfills all the indications. By means of it I have been enabled to dispense with the Peaslee needle in laparotomy, and thus to simplify this operation by a gain of some little time. I hold the properly curved Hagadorn needle directly in the end of and parallel to the forceps, introducing it like a Peaslee needle, carrying it on through both walls and out, completing each suture in one motion, as in other operations.



The accompanying cut renders a detailed description of the instrument unnecessary. The disc for receiving the needle is the distinctive feature of the instrument. It is a small "turn-table," with an excavated surface to accommodate curved needles, and square-cut grooves in which rests the needle when grasped for action. This "turn-table" occupies the extreme point of the lower jaw, while a copper plate fits it neatly from above. The handles are of vulcanized rubber, baked into the metal, and every part of the instrument can be easily removed for cleaning, thus meeting the demands of antiseptic surgery.

Miscellany.

Certain Causes of Major Pelvic Troubles, traceable to Minor Gynæcology.—At a recent meeting of the Philadelphia County Medical Society Dr. Joseph Price read the following paper:

With the present popular cry of "conservatism," in reference to operation in cases where it is held that all treatment should be tried previous to real surgical interference, it is worth while asking whether this preliminary treatment should not itself be abandoned in the hands of those who plead most pathetically for it. Their cry is not a scientific plea, but in most instances a *personal bid* for indulgence while they try to accomplish something, without acknowledging on the one hand that there is little or nothing to encourage them in their work, so far as results are concerned; and on the other, that there are abundant proofs from the cases that have come out from under their hands, with one treatment or another, that manifold really major surgical affections arise merely from treatment recognized as orthodox from the standpoint of minor gynæcology. So far as my own experience is concerned, I do not hesitate to put minor gynæcology in a causal relation with a vast amount of the necessary major pelvic surgery coming under my attention.

First among these causes may be mentioned the Emmet cervical operation. Like many other surgical operations, this, when first explained by its distinguished originator, was done in season and out, by every one, without the least consideration of its contra-indications. Very many minor tears of the cervix, in which a cosmetic effect only is obtained by operation, are made distinctly worse by operative interference. In many cases the pain becomes insufferable, from the lighting up of a dormant or unrecognized pelvic trouble, and operation is required to undo the mischief of an unnecessary cervical closure. This fact has been recognized by Emmet himself, and he has counseled the careful selection of cases in order to escape these disastrous results. It should be set down that where there is pre-existing pelvic disease, even though slight, no cervical operation ought to be tried unless absolutely required by the condition of the patient. Another operation which has met with much approval in many directions, and which some measure of success seems to follow in some cases, is the forcible dilatation of the cervix. It is clear that where there is antecedent inflammation of the pelvic viscera—that is, of the genito-urinary system—such an operation as surgical dilatation of the cervix can not be free from danger. In order to relieve dysmenorrhœa by this procedure, it must evidently be due to stenosis of the os or cervix. The question here arises, Can it be told, in dysmenorrhœa, wherein its causes lie? Sometimes, but not infallibly. The fact is, that in many women where a stenosis would be diagnosticated, there is no difficulty whatever attending the menstrual flux. This being the case, it is evident that a diagnosis can not be made by simple observation without a careful study of all the symptoms. Again, in many women the causes for this condition are complex. It will not do to lose sight of this, and conclude that because a flexion exists, dilatation will remedy menstrual pain. It is to be remembered that if there is co-existing pelvic inflammation, dilatation will increase it, and, under certain conditions, cause it if absent. Rapid dilatation of the cervix is a distinct traumatism, and along with it run all the dangers incident to septic absorption that attend any other violent procedure, and where traumatism incident to natural causes is confessed to be the cause of so much subsequent mischief, it ought not to be *expected that operative injury can be harmless.* This conclusion, reached inferentially, has been abundantly confirmed practically on the operative table by much of my later pelvic work. In a number of cases with a history of preceding dilatation the after-operation has exhibited an inflammatory condition of affairs as complicated as any other in my experience. Some of the dilatations were done with pre-existing disease, which was made worse by this interference, while others were done simply to relieve the dysmenorrhœa, and resulted in the establishment of a complicated surgical disease in which operation was *necessary purely to save life.* All in all, I believe that, judged simply by its remoter effects, the operation of rapid dilatation is a dangerous one, *and results oftener in subsequent harm than in lasting good.* The surgical injury to the cervix is, in many of these cases, more pronounced than the tears of the cervix which it is the intention to remedy by Emmet's operation. In this case there is operation at each horn of the dilemma, and the results are often equally bad at both. Simple closure of the cervix in cases of pelvic disorder almost certainly exacerbates the symptoms. The necessary inflammatory action set up in the suture tract is transferred along the lymphatic or venous channels to the seat of the earlier inflammation; this is lighted up anew, and goes on in its development until a pelvic peritonitis is kindled or rekindled, which at last entails a major operation. The minor gynæcologist, as such, who has no regard for or appreciation of the relation of the commonly advocated general closure of perineal and cervical tears to major surgical complications, can not but be a great factor in the causation of the same. In Pepper's *System of*

Medicine, vol. iv, there is on record a case in which the operator hoped to cure a pelvic inflammation by the derivative effect of a perineal or cervical operation. Needless to say, pelvic operation was afterward done. Such a cure is no less ridiculous than the so-called "faith" cure, and is certainly more *actively* harmful.

That the inconsiderate use of the uterine sound has been responsible for much inflammatory pelvic trouble is scarcely to be disputed. This is not because the sound is of itself a dangerous instrument, but because it is put into the hands of every tyro as an instrument of diagnosis. If used at all, it should be in the hands of those with whom its application, by reason of their skill, will be exceptional, not usual, and the rule should be that in the hands of a non-expert it should be forbidden. The more expert and experienced the specialist, the more rarely will the instrument be required. My own rule is that, in cases in which it might at first seem indicated, a little patience and diligence will obviate the necessity of employing it. The indiscriminate use of the sound and electrode is the most serious mechanical objection to the employment of electricity. Every sitting for the electrical treatment is prefaced by the use of the sound, and followed necessarily by the introduction of an electrode of some form. This is by a class of men who, in the main, have had no *previous gynæcological training or education whatever.* In such hands such methods can only be harmful, and we are now reaping the fruits of their work in a class of pelvic operations not surpassed in the complications presented. Along with the sound may be placed the curette in the same category. Dilatation and curetting of the uterus have placed to their credit a long *series of major operations.*

Another class of cases coming under this head are those in which there has been a long time during which intra-uterine applications have been made. All the caustics in the catalogue have at one time or another been in favor as cure-alls in intra-uterine therapeutics—nitric acid, chromic acid, nitrate of silver, and the rest. For a woman to have undergone a routine treatment with this list, and to have escaped pelvic inflammatory trouble, is little short of a miracle. A careful inquiry into many of the cases coming under my care directly and indirectly reveals the history that all sorts of minor procedures were tried, only to fail and apparently hasten the necessity for operation. I shall refer to and illustrate these points by the citation of cases in the discussion.

The New York State Medical Association will hold its seventh annual meeting in the Mott Memorial Hall, No. 64 Madison Avenue, New York, on Wednesday, Thursday, and Friday, the 22d, 23d, and 24th inst., under the presidency of Dr. John G. Orton, of New York. The programme includes the following items: An address in medicine. Prognostics in Medicine, by Dr. John Cronyn, of Erie Co.; The Mimicry of Animal Tuberculosis in Vegetable Forms, by Dr. E. F. Brush, of Westchester Co.; A New Method of Surgical Treatment in Certain Forms of Retro-displacements of the Uterus with Adhesions, by Dr. A. Palmer Dudley, of New York Co.; a discussion on intracranial lesions (to be opened by Dr. W. W. Keen, of Pennsylvania, with a paper on The Diagnosis and Treatment of Intracranial Lesions, propounding questions under the following divisions: I. Localization [cerebral topography]; II. Nature of the lesions; III. Indications for operative treatment; IV. Technique of operation; V. Results. QUESTION 1. What are the present means of localizing intracranial lesions? QUESTION 2. What is the nature of the chief intracranial lesions (hæmorrhage, abscesses, tumors), and how can they be discriminated? QUESTION 3. What are the indications and contra-indications of operative interference in cases of intracranial lesions? QUESTION 4. What are the best modes of operating in cases of intracranial lesions? QUESTION 5. What are the immediate and also the remote results of operative treatment in cases of incracranial lesions? These questions will be discussed by Dr. James J. Putnam, of Massachusetts; Dr. Charles K. Mills, of Pennsylvania; Dr. Donald Maclean, of Michigan; Dr. John B. Roberts, of Pennsylvania; Dr. Charles McBurney, of New York Co.; Dr. Frederic S. Dennis, of New York Co.; Dr. Stephen Smith, of New York Co.; Dr. John A. Wyeth, of New York Co.; Dr. Joseph D. Bryant, of New York Co.; and Dr. Thomas H. Manley, of New York Co.); Hypnotism, by Dr. H. Ernest Schmidt, of Westchester Co.; Retention of Urine from Prostatic Obstruction—its Nature, Diagnosis, and Management, by Dr. John W. S. Gouley, of New York Co.; The Specific Treatment of Typhoid Fever, by Dr. Gustavus Eliot, of Connecticut; an address in surgery, The Ligature of Arteries, by Dr. Stephen Smith, of New York Co.; The Death Penalty. Does the Garrote or Hanging ever produce Instantaneous Unconsciousness? by Dr. George E. Fell, of Erie Co.; The Therapeutics of Exophthalmic Goître, by Dr. E. D. Ferguson, of Rensselaer Co.; The Technique of Laparo-hysterectomy, with Illustrative Cases, by Dr. Ely Van de Warker, of Onondaga Co.; a discussion on obstetrics (to be opened by Dr. S. B. Wylie McLeod, of New York County, with a paper propounding the following questions: QUESTION 1. How may the present prophylactic measures in obstetrics be more extended and applied? QUESTION 2. Is the present technique in the management of labor and convalescence in accordance with sound physiology? QUESTION 3. To what extent have the surgical means of treatment of labor complications been successful, or should these complications and the process of repair have been more generally left to nature? QUESTION 4. What influence would a more advanced obstetric science have on the biological and social condition of the race? These questions will be discussed by Dr. Ira B. Read, of New York Co.; Dr. Henry D. Nicoll, of New York Co.; Dr. William McCollom, of Kings Co.; Dr. Joseph W. Stickler, of New Jersey; Dr. George T. Harrison, of New York Co.; Dr. Timothy J. McGilicuddy, of New York Co.; Dr. Palmer Dudley, of New York Co.; Dr. William H. Robb, of Montgomery Co.; and Dr. Alfred L. Carroll, of New York Co.); an address in obstetrics, by Dr. Carlton C. Frederick, of Erie Co.; an address on The Medicine of the Classics, by the Hon. Charles H. Truax, LL.D., of New York; Expert Medical Testimony, or the Physician as a Witness, by Dr. Martin Cavana, of Madison Co.; Some Observations on Bone and Skin Grafting, by Dr. Benjamin M. Ricketts, of Ohio; Mental Therapeutics, by Dr. Henry D. Didama, of Onondaga Co.; Leprosy, by Dr. Joseph C. Greene, of Erie Co.; The Curability of Pulmonary Tuberculosis, by Dr. Hermann M. Biggs, of New York Co.; Preventive Medicine, by Dr. Henry C. Van Zandt, of Schenectady Co.; The Use and Neglect of Bloodletting, by Dr. Homer O. Jewett, of Cortlandt Co.; A Medico-legal Study of Alcoholic Daze, Trance, or Hypnotism, by Dr. Simeon Tucker Clark, of Niagara Co.; The Psychical Aspects of Insanity, by Dr. John Shrady, of New York Co.; Tumors of the Orbit and Neighboring Cavities, by Dr. Charles Stedman Bull, of New York Co.; Test of Dugas in Dislocation of the Shoulder, by Dr. Frederick W. Putnam, of Broome Co.; Early Infant Viability, with Management of Cases, by Dr. Henry C. Hendrick, of Cortlandt Co.; Scarlet Fever in the Puerperium with Cerebral Hæmorrhage and Hemiplegia, by Dr. C. S. Allen, of Rensselaer Co.; Alcoholism as a Vice, and as a Result of Inherited or Acquired Brain Disease, by Dr. Isaac de Zouche, of Fulton Co.; An Office Battery, by Dr. William H. Robb, of Montgomery Co.; In Abortion, What of the Placenta after the Second Stage, by Dr. Darwin Colvin, of Wayne Co.; Cysts and Cystic Formations—their Pathology, Diagnosis, and Treatment, by Dr. Thomas H. Manley, of New York Co.; Functional Disorders of the Nervous System of Women, by Dr. Timothy J. McGillicuddy, of New York Co.; The Feeding of Infants, by Dr. John P. Garrish, of New York Co.; and A Case of Craniotomy, with Remarks, by Dr. James W. Guest, of New York Co.

Alcohol and Childhood.—"We most decidedly and heartily give our support," says the *Lancet*, "to the doctrine that, as a rule, children and young people do not need alcohol, and are much better without it. Their appetites are good, their cares few, and the more simply they live the better. Anything that can be done in board schools, and in public schools too, for that matter, likely to promote a thorough and intelligent independence of alcohol, should be encouraged. But it should be well done. The more moderate and medical the statement of the case the better. Young people resent intemperance in teetotalers as well as in other people. It must be remembered, too, that the real way to make children temperate is by setting them a good example at home. If children see alcohol produced in all shapes, and at all hours, and for every visitor at home, or if they are sent out as messengers twice or thrice a day to the neighboring 'public,' all the teaching of the schools will go for nothing."

The Transfer of Public Insane Patients to State Hospitals.—The statute having made it the duty of the president of the State Commission in Lunacy to prescribe regulations governing the transfer of public insane patients from their homes or from poor-houses to State hospitals by Superintendents of the Poor, and concerning the clothing of said patients, he has issued the following order:

1. That all County Superintendents of the Poor or town, county, or city authorities, before sending a patient to any State hospital, see that said patient is in a state of bodily cleanliness and provided with the following clothing, to wit: (*a*) One full suit of underclothing. (*b*) One full suit of outer clothing, including head wear and boots or shoes.

Between the months of November and April, both inclusive, there shall be provided, in addition to the foregoing, suitable overcoats for the men patients and suitable shawls or cloaks for the women patients, also gloves or mittens. Considering the great danger, always present, of the introduction of contagious or infectious diseases into institutions where large numbers of people are congregated, and to avoid, so far as possible, the introduction of such diseases by means of wearing apparel, the clothing above provided for must in all cases be new.

2. In traveling by rail, patients must not be compelled to ride in smoking or baggage cars, except in the case of men patients who may be so violent, profane, or obscene as to render their presence in ordinary passenger coaches offensive. If any portion of the route is necessary to be traversed by team, a covered conveyance should, unless impossible, be provided. The shortest practicable route should be selected; the hour of departure should be timed, so far as possible, so as to avoid the necessity of stopping over night on the journey and so as not to reach the hospital at an unseasonable hour. Whenever practicable, a notice in advance, by writing or telegraph, should be sent to the medical superintendent of the hospital of the coming of the patient. In cases of violent patients a sufficient number of attendants should be provided to control their actions without resorting to the use of mechanical restraints, such as straps, ropes, chains, hand-cuffs, etc.; quieting medicines should not be given to such patients except upon the prescription of a physician. If it becomes necessary to remain over night or for a number of hours at a station on the route, patients are not to be taken to jail, police station, or lock-up. Food in proper quantity and quality, and at intervals not exceeding five hours, should be provided for patients, but no alcoholic beverages must be given unless upon prescription of a physician. Opportunity must be afforded for attention to the calls of nature, and the rules of decency must be observed. In case of the employment of extra attendants in conveying violent patients, care must be taken that they are of adult age and of good moral character. The provisions of the statute which require that a woman attendant shall accompany women patients when taken to State hospitals must be strictly complied with.

3. Any violation of the requirements of this order shall be promptly reported, so far as known to him, by the medical superintendent of the hospital to the State Commission in Lunacy.

4. This order shall take effect on the 1st day of October, 1890.

The New York Academy of Medicine.—At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 20th inst., Dr. M. L. Foster will read a paper on Cyst of the Lacrymal Gland, Mr. James Prentice will show Prentice's prismometer, and Dr. H. D. Noyes will open a discussion on Hæmorrhage into the Vitreous following Operations.

At the next meeting of the Section in Theory and Practice of Medicine, on Tuesday evening, the 21st inst., Dr. G. R. Lockwood will read a paper on Acute Hæmorrhagic Purpura.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 23d inst., Dr. Ralph Waldo will read a paper on Pregnancy complicated by Circumuterine Inflammatory Deposits, and Dr. G. M. Edebohls will read a paper on Exploratory Puncture of the Female Pelvic Organs.

At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 28th inst., Dr. C. H. Knight will read a paper entitled A Sequestrum removed from the Nasal Fossa by Ronge's Method, and Dr. D. Bryson Delavan will read a paper on The Surgical Treatment of Tubercular Laryngitis.

Prostatic Hypertrophy.—In a paper presented to the Mississippi Valley Medical Association at the recent meeting in Louisville, Dr. William T. Belfield, of Chicago, collects 133 cases of operations upon the hypertrophied prostate, including 8 of his own, as follows: 41 by perineal incision, mortality 9 per cent.; 88 by suprapubic cystotomy, mortality 16 per cent.; 4 by combined perineal and suprapubic incision, none fatal.

In fifty-six of these cases the essential facts before and after operation are furnished. The patients had been the subjects of cystitis and dependent upon the catheter for periods varying from one to ten years. In all the cystitis was cured; in thirty-eight (two thirds) voluntary urination was restored and continued during the time of observation, six months to two years and a half; in eighteen this function was not recovered.

Fifteen of these fifty-six cases were complicated with stone; excluding these—since it might be objected that the cure resulted rather from the calculus extraction than from the prostatic operation—there remained forty-one cases of uncomplicated prostate operations; of these, thirty-two patients (four fifths) recovered the power of urination, and in nine this ability was not recovered.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

A CONTRIBUTION TO THE STUDY OF APPENDICITIS.*

By LEWIS A. STIMSON, M. D.,
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Inflammation of the vermiform appendix is an affection that has received especial attention during the last few years—an attention that has greatly increased the extent and accuracy of our knowledge of its various forms and mode of development, and our ability successfully to deal with it. A large part of this advance in our knowledge of the subject is the result of the labors of American physicians and surgeons, and one of the most notable papers that have appeared of late upon this, or indeed upon any surgical topic, is the one read by our associate, Dr. McBurney, before this society, November 13, 1889, under the title of Early Operative Interference in Disease of the Vermiform Appendix, and published in the *New York Medical Journal*, December 21, 1889.

It was not merely that he presented an important number of cases successfully operated upon in the early stage, and a number much larger than had been reported by any other surgeon, but, much more than that, he presented new and important information concerning the pathological processes of the early stage, the varying conditions of the appendix, the position and time of appearance of pus, the relation or absence of relation between the symptoms and the pathological conditions, and, above all, pointed out the means by which the presence of the disease might be recognized at the very outset. Perhaps the most valuable result of the publication of Dr. McBurney's paper has been the readiness and certainty with which the disease is now recognized, and the wide extension that has been given to this addition to our diagnostic resources. This is shown by the great increase in the number of recognized cases and in those that are referred to surgeons for operation. This is strikingly shown by a comparison of recent experience with that of the past. When Dr. Sands wrote his first paper on appendicitis, eight or ten years ago, he mentioned as a surprising fact that he had seen twenty-nine cases in the course of the preceding twenty years; probably some of us have seen nearly an equal number in the last year. As there is no reason to suppose that the affection is more frequent today than it was in the past, the inference is unavoidable that formerly many cases passed unrecognized. The fatal cases were called peritonitis or intestinal obstruction; the mild ones were thought to be gastritis, or gastro-enteritis, or intestinal colic.

This increase in the number of recognized cases is all the more valuable because it is not merely a duplication of past experience, but, on the contrary, is made up of cases observed in earlier stages and under different conditions. For this reason, and because of the need of establishing principles of treatment based upon the new knowledge, it is desirable that recent individual experience and results should be made known in order that enough material may be at our disposal to permit trustworthy deduction and generalization.

I desire, therefore, to present this evening a report of the cases—twenty-one in number—that have come under my observation since November, 1889. Four of the thirteen operative cases have been previously reported to the society. For convenience of reference, the cases have been arranged in groups according to the method of treatment instead of chronologically.

Cases not operated upon.

Case I.—John E., thirty years of age, was brought to the Chambers Street Hospital, February 27, 1890. Four days previously he had a chill, followed by pain in the abdomen, persistent nausea, and fever. A physician had seen him on the third day and found his temperature 101·7°. No movement of the bowels since the beginning of the attack. He had had a similar attack two or three years previously. On admission, his temperature was 98° in the rectum, pulse 130 and weak, abdomen greatly distended and painful, especially on the right side; patient apathetic. The question of appendicitis was raised but not positively answered. The patient's condition was so desperate that no operative measure was deemed justifiable, except an enterotomy for the relief of the (functional) obstruction. It showed the small intestine deeply congested and largely distended to a point six inches above the ileo-cæcal junction; below that point it was empty; no kink or mechanical obstruction was seen. The contents of the intestine escaped freely through the incision, but the patient died a short time afterward—February 28th.

The autopsy showed general peritonitis without liquid or fibrinous exudation, the appendix deeply congested and apparently gangrenous at its apex. Microscopical examination showed catarrhal inflammation of its mucosa; there was no perforation.

Case II.—On April 28, 1890, I was called by Dr. Wells, of New Rochelle, to see Henry R., thirty years old, who had been attacked, April 23d, with violent pain in the right iliac fossa. The diagnosis of appendicitis was made and the pain soon relieved by morphine; the apparent convalescence had been abruptly interrupted at 10 A. M., April 28th, by a recurrence of the pain, so severe that a grain and a half of morphine were administered hypodermically within three hours. I saw him at 4 P. M.; he had then no pain except on pressure, was cheerful, but his surface was dusky and cool, his lips bluish, his pulse 150, and his rectal temperature 105·5°, although in the mouth it was only 99·25°. The abdomen was tense and distended; deep resistance and pain on pressure in the right iliac fossa; a soft, irregular mass, hard and tender on its right side, could be felt through the rectum behind the bladder. The patient was clearly moribund, and died four hours later.

Case III.—On May 18th I was called to Connecticut to see a friend, a man thirty years old, who had been ill for nearly a month with constant but not severe pain in the right iliac fossa, occasional nausea, and some fever. I found him free of fever but very weak, with marked tenderness and slight deep induration at a point midway between the umbilicus and the right anterior superior spine of the ilium.* For a few days previously there had been at this point a swelling that distinctly raised the anterior abdominal wall. The tenderness persisted at intervals until August, and was increased by free movements of the right thigh.

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* Read before the New York Surgical Society, October 8, 1890.

* For the sake of brevity, and as a proper recognition of the value of this symptom, I shall speak of this point as "McBurney's point."

Case IV.—James H., aged twenty-four, was attacked May 17th with nausea and diffuse abdominal pain, followed by fever, which persisted until May 20th, when I was asked to see him. There was marked tenderness on pressure at McBurney's point; temperature 100°. There was a clear history of a very sharp attack, diagnosticated as perityphlitis, five years before. Having in view the possibility of an operation, I sent the patient at once to the New York Hospital. After the condition had been explained to him he desired the operation, but, as he was improving, I advised delay; the next day he was much better, and shortly afterward was discharged. He declared that if the trouble recurred "he would have that thing out"; it did recur, and he reappears in the group of cases treated by laparotomy.

Case V.—Henry D., aged twenty-one, was admitted to the Chambers Street Hospital, June 15, 1890, complaining of pain in the abdomen and nausea. The McBurney point was well marked; no deep induration; temperature, 101·5°. He was kept in bed on low diet, and improved so rapidly that he was discharged in three days.

Case VI.—On September 23, 1890, I was asked by Dr. Partridge to see Mr. H. R., twenty-five years old, who had been attacked with abdominal pain on the preceding afternoon. The pain had become quite severe by morning, with nausea and a slight chill at noon. I saw him at 3 p. m. Temperature, 101·75°; pulse, 102; abdomen quite tense on the right side and painful on pressure at and below McBurney's point. No recognizable induration. He had had two similar but less severe attacks within the preceding ten weeks.

At 9 p. m. his temperature was 100·25°, pulse 74. The following day the temperature had fallen to 99°, and on the 25th it was normal and the tenderness much less. He was kept in bed and on a light diet for six days, and then discharged. There was still slight tenderness in the iliac fossa on pressure.

Case VII.—James G., about forty years old, while under treatment in the New York Hospital for a compound fracture of the arm, had a rise of temperature, nausea, and considerable abdominal pain; McBurney's point well marked. The following day the fever and nausea had ceased; the local tenderness had diminished, and it entirely ceased in a day or two.

In the following case the diagnosis may be questioned.

Case VIII.—An unmarried lady, thirty-two years old, has been practically disabled for several years by recurrent attacks of pain in the abdomen, especially on the right side, accompanied by nausea, but usually without fever. Five years ago she was treated by an eminent gynæcologist for these attacks, which he thought might be due to an ovaritis. An equally eminent physician, whom she subsequently consulted, diagnosticated an inflammation of the ascending colon and gave her some relief. The attacks were always severe, the pain beginning in the right iliac fossa, and sometimes radiating up the back; they lasted for days, and sometimes for weeks with less severity. I saw her in August during an attack and found McBurney's point perfectly well marked. I believe it to be a case of recurrent appendicitis, and expect that before long an operation will demonstrate it.

Cases treated by Operation. Simple Evacuation of an Abscess.

Case IX.—D., ten years old, was admitted to the New York Hospital on November 25, 1889. Two weeks previously he had been seized with severe pain in the right iliac fossa, nausea, and fever; during the second week a swelling was noticed in the right iliac region. On admission, there was a large fluctuating swelling in the right iliac fossa, over the center of which the skin was red and adherent. Temperature, 101·5°. An incision was made over the prominent part of the swelling and a large quantity of pus evacuated. On December 28th discharged cured. The boy has been seen recently, and has remained well.

Case X.—Mary K., aged twelve years, admitted to the New York Hospital, in June, 1890, with a perityphlitic abscess, which was opened by an incision along the outer part of Poupart's ligament and the adjoining crest of the ilium. The case came under my care July 1st, and then had a fæcal fistula in the line of the incision, which still persists.

Case XI.—Dr. James E., about thirty years old, was attacked on April 10, 1890, with severe pain in the right iliac fossa and vomiting. This was the sixth attack in three years. The previous attacks had been treated by the internal administration of castor-oil and belladonna, and had lasted only one or two days, ceasing promptly after the bowels moved. I saw him on the second day, when he was feeling better and was confident the attack had passed. The evening of the 12th, while at stool, he had the sensation of something giving way in the lower part of the abdomen. He said it felt as if something tore for a length of about four inches, and this was followed by great rectal tenesmus. He summoned an ambulance to take him to the New York Hospital, and notified me on the following morning. Dr. McBurney kindly saw him with me at my request. Temperature, 101°, the patient looking very ill, and quite dazed by a small amount of morphine taken the previous evening. Marked tenderness and some fullness in the right iliac fossa at and below the level of the anterior superior spine. The finger in the rectum found a bulky swelling at and above the region of the prostate, extending from side to side of the pelvis, rather hard and tender on the right side, soft and depressible high up in the center. A hypodermic needle, introduced into this swelling, brought thin, offensive pus.

Ether, anus dilated, and an incision made through the anterior wall of the rectum, evacuating a large amount of thin pus. The finger introduced through the incision passed into a cavity behind the bladder, undoubtedly the cavity of the peritonæum. A large drainage-tube was inserted and retained for three days, then escaping spontaneously during a movement of the bowels induced by a saline purge.

April 18th.—Patient returned to his home.

May 7th.—Some thickening can be felt through the rectum, and a very little in the right iliac fossa.

The transient character of the five previous attacks naturally gave him the impression that the sixth would be as easily recovered from, and yet it is clear that the delay seriously imperiled the patient's life.

Cases treated by Laparotomy, with Opening of the General Peritoneal Cavity.

In all but one of these cases the incision was made along the outer border of the rectus from the level of the umbilicus nearly to the center of Poupart's ligament. The appendix was tied with catgut close to the cæcum and cut away; the stump was cauterized with pure carbolic acid; the adjoining intestines were carefully protected during the operation by flat sponges and cloths held against them by long, broad retractors; a drainage-tube and packing of iodoform gauze were used in all cases and usually removed on the fourth or fifth day. The external wound was closed for two thirds or three fourths of its length. Absolute diet was maintained for twenty-four hours, and then small quantities of milk were given. The microscopical examination of the removed appendices was made by Dr. Ferguson and Dr. James at the laboratory of the New York Hospital.

Case XII.—John M., twenty-two years old, was admitted to the Chambers Street Hospital, October 25, 1889, complaining of severe pain in the right iliac fossa. Temperature, 99°. There was some rigidity of the abdomen on the right side, but no dullness or tumor. McBurney's point well marked. He gave a history of two attacks, fourteen months and three years previously.

Operation forty-eight hours after the beginning of the attack. The appendix was closely adherent through its whole length to the mesentery of the ileum, and so completely imbedded in new tissue that it was found and removed with much difficulty. There was no pus. Microscopical examination showed the wall of the appendix studded with small round cells, and the structure of the mucosa entirely lost. Recovery followed without incident.

Case XIII.—Christopher H., twenty-three years old, admitted to Chambers Street Hospital, November 29, 1889, complaining of nausea and violent pain in the abdomen, especially on the right side. Temperature, 103°. I transferred him to the New York Hospital, and operated fifty-five hours after the beginning of the attack. The appendix was prominent below and behind the cæcum, deeply congested, and about an inch long and three quarters of an inch thick at its base. As the cæcum was raised pus escaped, to the amount of about two drachms, from around the base of the appendix. It was caught on sponges, and the region lightly washed with a bichloride solution. The appendix was then removed. From its apex a stout cord of connective tissue extended upward, and was continuous with the tissues of the floor of the fossa. The patient made an uneventful recovery.

Case XIV.—Lorenzo M., twenty-three years old, admitted to the Chambers Street Hospital, January 21, 1890. Ten days previously he had been seized with severe abdominal pain and nausea, which had persisted in less degree and had been accompanied by fever. A firm, very sensitive swelling could be felt in the right iliac fossa, beginning an inch above Poupart's ligament and extending upward farther than it could be followed. It was dull on percussion, with resonance below, above, and on its inner side. Temperature, 101·5°. On making the usual incision there were found no infiltration of the abdominal wall, no adhesions, no injection of the peritonæum, no effusion. The cæcum and ascending colon were empty and raised upon a firm mass attached to the floor of the iliac fossa; the ileum and its mesentery were normal, and could be readily followed to the junction wth the cæcum, but the appendix could not be found. While holding up the cæcum I saw pus exude through a minute opening in the lower end of the mass just mentioned. A sponge was placed against it, the adjoining intestines protected by flat sponges, and then the minute opening was enlarged, giving exit to several ounces of fœtid pus and gas; the finger could then trace the cavity of the abscess upward and backward behind the colon as far as the finger could reach. The appendix seemed to be imbedded in the lower part of the wall of the abscess and was not removed.

A drainage-tube was introduced into the abscess, and the portion lying between the abscess and the parietal incision was rather thickly surrounded with a packing of iodoform gauze. Gauze was also packed over the cæcum and between it and the small intestine, as a protection in case infection by the pus had occurred at that point. This gauze was removed after three days, that around the tube at the end of a week. The patient made an uneventful recovery.

Case XV.—James R., eighteen years old, was brought to me, March 31, 1890, by Dr. White, of Franklin, N. Y., with a history of four attacks of appendicitis within a year. The first attack lasted four days; the second, in September, 1889, was more severe; the third, in December, less severe; and the fourth, in March, again more so. Dr. White had seen the patient only in the last attack. His description of the symptoms, which included the McBurney point, left no doubt of the correctness of the diagnosis. I sent the patient to Bellevue Hospital and operated the next day.

The appendix was adherent to the cæcum and omentum; its terminal inch was as large as the end of my little finger; the remainder, an inch and a half to two inches long, was the size of a lead-pencil. It was removed and the patient was discharged, cured, at the end of a fortnight. The appendix contained no concretion and no pus; the cavity of its dilated end was shut off by a tight stricture; the mucosa was thickened and pulpy.

Case XVI.—John McG., seventeen years old, was admitted to the Chambers Street Hospital, April 17, 1890, complaining of severe pain in the right iliac fossa, which had begun a few hours before. In January, 1887, he had been in the hospital for three weeks suffering with peritonitis caused by the passage of the wheel of a wagon across his abdomen. Temperature 102°. Marked tenderness on pressure and some resistance in the right iliac fossa. I operated the next day. The subperitoneal tissue in the line of the incision was œdematous, the omentum adherent at points to the anterior abdominal wall; the free end of the appendix was almost in contact with the anterior wall, the cæcum lay above it, and a loop of the ileum lay on its inner side closely adherent to it, to the cæcum, and to the floor of the fossa. These adhesions were old and thick; the appendix was deeply congested. The removal of the appendix was difficult, because of the adhesions and because of its position in the sort of deep, narrow pocket formed by the adherent intestines; it was tied two inches beyond its tip, apparently quite close to the cæcum. Uneventful recovery.

Case XVII.—Dr. Charles W., aged thirty-two, was attacked, May 26, 1890, with nausea, which grew worse during the evening and was accompanied by abdominal pain. As there was no movement of the bowels and no escape of flatus during the night, he feared intestinal obstruction, and sent for me the following morning. There was pain on pressure and dullness on the left side of the abdomen; the right iliac fossa was free. Temperature between 101° and 102°. A dose of castor-oil induced a copious movement, which contained a considerable quantity of undigested soft-shell crabs that had been eaten the previous day. The nausea persisting, I transferred the care of the case to Dr. J. W. McLane.

A week later, June 3d, I was again called; the fever had been constant, there was marked pain and an ill-defined tumor in the right iliac fossa, and the skin above the crest of the right ilium was red and thickened. The patient was evidently very ill. Not wishing, for personal reasons, to operate, I asked Dr. McBurney to do so. The operation was done June 4th. An exploration of the reddened area above the ilium showed that the wall was not invaded and not adherent to the adjoining mass; the usual incision was then made in front. A small amount of pus was found behind and at the outer side of the cæcum, and was carefully removed on sponges. The appendix was not seen, and it was thought best not to break up adhesions to seek for it. The operation was done with the delicacy and precision that characterize the operator, and no precaution was neglected that might have contributed to the safety of the patient. But the septicæmia was not checked, the discharge was free and very offensive, and he died forty-eight hours after the operation.

Case XVIII.—James H., aged twenty-four. The previous history of this patient has been given above (Case IV). On June 29th he had another attack, less severe than the one in May, and, as I was temporarily absent from the city, he entered the New York Hospital and sent me word that he wished to have his appendix removed. When I saw him, July 1st, the attack had almost ceased, the temperature was normal, and the tenderness on pressure slight, but he still desired the operation.

The appendix arose from the antero-lateral aspect of the cæcum and thence curved inward and backward, its apex being closely adherent to the peritonæum of the fossa; the distal half was firmly bound down by adhesions, and there were some recent ones along its curve. It presented two constrictions that divided it into nearly equal thirds, and was not distended; it contained no concretions; its mucosa was almost completely destroyed by round-cell infiltration. The patient was discharged, cured, July 15th.

Case XIX.—Mrs. K. (Stamford, Conn.), thirty-five years old, the mother of seven children and three months pregnant, was seized with intense abdominal pain on the right side at 1 p. m., July 31, 1890; it was so severe that between three and ten o'clock she received a grain and a half of morphine hypodermically. Tenderness on pressure appeared to be most marked at McBurney's point, and extension of the right thigh was somewhat painful, but, as the patient had lost blood rather freely from the uterus three times during her pregnancy and some thickening could be felt through the vagina on the right side, her physician, Dr. A. M. Hurlbutt, thought it might be a ruptured extra-uterine-gestation sac. I saw the patient at 1 a. m. She had rallied, the pain was controlled by the morphine, but the temperature had risen to 101°. The abdomen was rigid, resonant throughout, and moderately distended. The previous history was negative except for several transitory attacks of sharp pain low down in the abdomen during the preceding three or four years, none of which had compelled her to take to bed.

I did not think it was a case of ruptured extra-uterine pregnancy, but the existence of an acute spreading peritonitis was beyond doubt, and I advised immediate operation to remove the cause if possible. I chose the median incision, believing that the appendix could be removed through it if necessary, and that it might be of advantage if the peritonitis should prove to be due to some other cause.

The operation was done at 2 a. m., with the assistance of Dr. Hurlbutt, Dr. Pierson, and Dr. Hungerford. As soon as the peritoneal cavity was opened a considerable amount of turbid serum containing flakes of lymph escaped, and, on raising the right side of the incision, the appendix appeared; it was brightly congested; its apex was directed forward and inward and almost in contact with the abdominal wall; it lay behind and in contact with the right ovary, the point of contact being at the junction of its basal and middle thirds, and at this point was a dark slough a quarter of an inch in diameter; around the slough and on the adjoining surface of the ovary was a narrow white zone of fibrin. The neighboring peritoneal surfaces were congested; there were no adhesions.

The appendix was tied at its base and removed with great ease, the adjoining peritonæum lightly sponged off, a drainage-tube and iodoform gauze packing introduced, and the incision closed in great part. Recovery followed without interruption. The appendix was three inches long and as large as the little finger; its wall was very thick, the mucosa in a condition of catarrhal inflammation; it contained only a small flake of soft fæces. On the basal side of the slough, which was perforated at its center, was a marked diaphragmatic contraction with a minute central opening. The mucosa covering this constriction was not destroyed, and it did not appear to be cicatricial.

Case XX.—Robert R., aged twenty-eight, a pilot, was attacked with very severe pain in the abdomen on the evening of September 22, 1890, while at sea; during the two preceding days he had had occasional slight pains. The pain continued with nausea through the following day and night, and he was brought to the Chambers Street Hospital on the morning of September 24th. I saw him at 12.30 p. m. He gave the history of a similar attack in the preceding April. His temperature was 103°, pulse 145, abdomen tense and resonant throughout but somewhat dull in the right flank, and was very painful on pressure in the right iliac region and the left hypochondrium. His voice was strong, his mind clear and calm, and, although the condition seemed desperate, yet I was encouraged, by the success in Case XIX and by the absence of the signs of profound septic intoxication, to make the attempt to save him. Other engagements compelled a delay until 3.30. The pain in the left hypochondrium had then ceased; rectal temperature, 104°; pulse, 165. As soon as the peritoneal cavity was opened several ounces of thin pus escaped, coming in great part from the region of the right flank, but also from the mesial side of the incision and the floor of the fossa. There were no limiting adhesions, and the distended intestines were held back with difficulty. The appendix lay transversely, its apex below the brim of the pelvis; it was much enlarged and was bound down by light adhesions, which gave way readily on slight traction. I transfixed its mesentery close to the origin of the appendix and passed two catgut ligatures, one about the narrow mesentery, the other about the appendix, and cut away the latter. The pus was removed by sponging, a drainage-tube was passed upward on the outer side of the colon, and iodoform gauze was packed above, below, and to the inner side. The incision was partly closed by a suture at its center and one at each end.

The appendix, two inches and a half in length, somewhat flattened, and more than an inch broad near its free end, showed three sloughing perforations—one close to the line of section, one at the apex, and one midway between the others. Within it and corresponding to the first perforation was an enterolith a third of an inch in diameter; the wall was thick, the mucosa sloughy, and showing drops of pus at a few points.

At 10 p. m. the pulse had fallen to 130, the temperature to 102·5°; the next morning the temperature in the rectum was 100·4°, pulse 135, and the patient cheerful and apparently better, but the nausea persisted. At 6 p. m. the temperature in the rectum had risen to 104·6°, the pulse to 150; a saline purge and enema had proved ineffectual. Two hours later I went to him with the intention of opening the abdomen in the median line and draining the left side of the cavity if the symptoms called for it; but I found him easier, his temperature a little lower, and no signs of an effusion within the cavity; there was some tenderness on pressure with the finger in the rectum. I withdrew part of the packing; it was moderately wet and odorless.

September 26th.—He seemed better in the morning, but the rectal temperature was 104° and the pulse 150 and very small. At 10.30 the temperature was 105·5°. During the afternoon he was delirious at intervals; rectal temperature at 3 p. m. 107°. He died at 6 p. m. with a temperature of 107·8°.

Auptosy eighteen hours after death. The packing of the wound had been withdrawn immediately after death, and the incision closed by sutures. Abdomen largely distended. On opening the abdominal cavity, liquid fæces and gas escaped in large quantities; they came from a linear opening an inch long near the middle of the small intestine, the loop lying in the right hypochondrium, the edges of which showed no traces of inflammation. As the cavity in the loin occupied by the drainage-tube and the upper packing was not shut off from the general cavity by adhesions, and as nothing came from it when the packing was removed and the incision sewed up after death, I can not think this rupture and effusion could have occurred before death. It is barely possible that it was a cut made in opening the abdomen at the autopsy. No pus could be recognized in the liquid, and there was no injection of the general peritoneal cavity, no adhesions, no coating of fibrin upon it. The stump of the appendix was completely covered in by adhesions. In the true pelvis on the right side was a closed collection of sweet, thick pus, estimated at two ounces; it surrounded the point on the wall from which the perforated apex of the appendix had been removed. It seems not improbable that if the packing had been pushed farther down in this direction, suppuration might have been arrested there, as it apparently had been elsewhere. The terminal ten or twelve inches of the ileum ran down into the pelvis, was adherent to its wall, and formed part of the wall of the abscess; it was darkly congested and thickly coated with fibrin in places, and empty. The cæcum and ascending colon contained only a small amount of dark semi-solid fæces, showing that something had completely prevented the passage of the contents of the small intestine downward. No mechanical obstruction could be found.

Case XXI.—Hermann F., aged twenty-two, admitted to the Chambers Street Hospital, September 30, 1890. He had been ill for two weeks with continuous nausea and vomiting and severe pain in and near the right iliac fossa. No history of any previous attack. Temperature 102·4°. Abdomen not distended or rigid. A well-marked swelling extended from the pubes nearly to the umbilicus, and from an inch to the left of the median line to three inches to the right of it, not reaching to the right spine of the ilium by more than an inch; maximum tenderness begins an inch below McBurney's point and extends downward and inward. Under ether the swelling is hard, irregular, and slightly movable laterally.

Operation at 2 P. M. The omentum covered the mass and was closely adherent to it and to the anterior abdominal wall on the mesial side of the incision, but not to the cæcum. The anterior longitudinal bundle of the cæcum ran inward to the base of the mass. On gently separating the latter from the floor of the fossa, exit was given to a large quantity of fœtid pus, estimated at six ounces, and to a fæcal concretion half an inch long and nearly as thick as a lead-pencil. The bleeding from the wall of the abscess was free. Large packing of iodoform gauze; the incision was partly closed by a suture at each end and a loosely-drawn central one. The temperature fell that evening to 99·6°; the bowels were moved by enema October 2d, and the gauze was removed October 3d, a light, fresh packing being substituted.

To-day, October 8th, the temperature is normal, the abdomen flat and insensitive, the abscess is discharging moderately, and the incision is closing.

In eight of these cases the removal of the appendix gave the opportunity to examine it directly and investigate the *cause* of the morbid process. Contrary to a widely held opinion and perhaps to the experience of others, in only one of them was a foreign body or a fæcal concretion of sufficient size to have been a factor in inducing the inflammation found. The oyster-shell and grape-seed of tradition must disappear as causes, or at least must be freely supplemented by others. But in all cases we find a marked inflammation of the mucosa, and one that in some cases had almost obliterated its structure by studding it with round cells. Total or partial obliteration of the lumen was found in three cases; and in another, in which the appendix was short and considerably distended, it seems probable that there was a constriction between the point of excision and the cæcum; in one of these three cases the stricture was double, but not impervious. As the first two gave a history of previous attacks of considerable severity, I deemed these strictures the result of cicatricial contraction, but in the other one (Case XIX) there was a history of many transitory attacks of pain, but of none lasting for any length of time and accompanied by fever, and the stricture itself was not cicatricial but was covered by a normal mucosa. It seems probable, therefore, that the cause may sometimes lie in a congenital defect, a narrowing due to a developmental aberration. It would be instructive to know in what proportion of all autopsies such stricture of the appendix is present.

It can hardly be doubted that the combination, when present, is an important factor in provoking or increasing the inflammation, and, by preventing the escape of the contents of the appendix, in inducing perforation. Cases have been reported in which the appendix was literally a bag of pus, an abscess upon the point of breaking, and for such a condition a total occlusion of the lumen on the proximal side is necessary. Yet perforation is not always due to obstruction and distention; in Case XIX the obstruction was not complete, and there was no distention, yet a slough a quarter of an inch in diameter had formed without any warning symptoms, and the attack began apparently with its separation.

In Case XVII the appendicitis followed an attack of gastro-enteritis induced by an error in diet, and the case is noteworthy for the prompt appearance of septicæmia and its rapid advance to a fatal termination without peritonitis and notwithstanding the evacuation and drainage of the small abscess. In connection with this apparent relation between enteritis and appendicitis I may refer to those occasional cases in which an error in diet is habitually followed by a transient attack of appendicitis, one marked by pain but usually free from fever, and of only a few hours' duration. On the hypothesis of a constriction of the appendix and of a catarrhal inflammation of the mucosa such attacks can be readily explained.

Remembering that the mucosa of the appendix contains an exceptionally large proportion of solitary and agminated follicles, it occurred to me that appendicitis might, theoretically, be expected sometimes to occur as a sequela of typhoid fever. My own experience contains only one case in which such a connection might have existed—a case of typhoid fever the convalescence from which was interrupted by a return of fever with abdominal pain, followed after a few weeks by pyæmia and death. The autopsy showed a small collection of pus about the appendix, a suppurative portal phlebitis, and multiple abscesses of the liver. Since the possibility of such a connection first occurred to me, about a year ago, I have noticed the report in the journals of two cases in which appendicitis immediately followed an attack of typhoid fever.

The *course* of the affection, when not interrupted by operation, is shown or indicated in nineteen of my twenty-one cases, and if to these are added the previous attacks in the same patients (excluding Cases VIII and XIX), we have a total of thirty attacks. Of these, twenty recovered and two died, without operation; pus was found in nine; in three of these it formed a large abscess which was opened without exposure of the general peritoneal cavity, and with the formation of a persistent fæcal fistula in one; in four the collection of pus was removed by laparotomy, with one death; in two, general peritonitis occurred in consequence of perforation, with one death and one recovery after laparotomy. Two cases (XII and XVI) throw no light upon the probable course, because the process was cut short by an early removal of the appendix.

The pus in all the cases, with possibly one exception, was intraperitoneal; in the possible exception (Case XIV) it lay between the layers of the mesocolon, and it may be deemed an open question whether it originally formed there or reached that position by perforation of the peritonæum after having formed about the appendix; the latter organ was not recognized, being apparently imbedded in the wall of the abscess.

It is of interest to note that in one case certainly (XII), and in two others probably (XIII and XVI), pus formed about the appendix without perforation or sloughing of that organ; and also that a fatal septic peritonitis was set up (Case I) without perforation of the appendix or the previous formation of pus about it. In Case XIII pus was found, without perforation, at the beginning of the third day, and in the same length of time in Case XI a large abscess appears to have had time to form and rupture.

The uncertainty of the course is strikingly shown in Cases II and XIX; in the former, convalescence, that had apparently been progressing satisfactorily for several days, was suddenly interrupted by a violent recurrence that proved fatal in ten hours; in the latter, a slough formed in the wall of the appendix without having given rise to any symptoms that attracted the patient's attention, and its perforation set up a general peritonitis that would, I think, have proved fatal in a few hours if it had not been arrested by operation.

Eight of the patients (exclusive of Case VIII) had had previous attacks, most of them quite severe. In one (I) the second attack proved fatal by septic peritonitis without perforation or suppuration; in another (XX) the second attack proved fatal by perforation; in another (XIX), after many slight attacks, perforation took place and nearly proved fatal; in Case XI, after five previous attacks, a large abscess formed and was opened through the rectum after the patient's life had been gravely jeopardized. In Case XV, operated upon after the cessation of the fourth attack, the terminal inch of the appendix was shut off by a constriction and so distended that its ultimate suppuration, if it had been left to itself, seems highly probable. In the sixth (XVIII) there were two tight constrictions of the appendix, but no distention. In the seventh (XII) the appendix was buried under adhesions, and in the eighth (VI) no operation was done. These histories indicate that the danger is greater in patients who have had previous attacks, and that the easy inference that because they have escaped once or twice or thrice they may therefore be trusted to do so again, is not well founded.

The course of an attack that gets well under medical treatment is ordinarily as follows: It begins with pain more or less severe, at first central or general, but soon localized or with maximum severity in the right iliac fossa, and accompanied or soon followed by nausea. The temperature rises and may reach 102° at the end of twenty-four hours, but during the second day it falls, although the tenderness on pressure or coughing persists, and by the third or fourth day the temperature is normal and the tenderness less. Traces of the latter may remain for a week or two.

In cases that suppurate, with or without a perforation protected by adhesions, the temperature continues to rise, or is maintained after the second day, and distinct resistance or a well-defined tumor is recognizable on deep palpation in the right iliac fossa. This tumor is constituted at first, not by an abscess, but by agglutinated loops of intestine, and exploration of it with a hypodermic needle is very unlikely to yield pus.

Death may come through septicæmia after suppuration, by shock or acute peritonitis after perforation or rupture of an abscess, or by a septicæmia that apparently originates in a functional obstruction of the intestines. Two of the four deaths in this list of cases were apparently due to this latter cause, and the conditions found on autopsy were striking: the small intestine largely distended with liquid yellow contents down to a point within a few inches of the ileo-cæcal junction and empty beyond, with no recognizable mechanical obstruction at the point where the distention ceased. I recall another case in which the same conditions existed: a stab-wound of the abdomen, with four cuts in the intestine, which I closed by suture; the course of the case, until death on the sixth day, was that to which the name of intestino-peritoneal septicæmia has been recently given, and the autopsy showed the same distention of the small intestine ending abruptly in the neighborhood of the healed wounds in the bowel. This is a condition against which, when it is fully developed, we seem to be at present powerless, and which demands our most thoughtful attention.

Concerning the diagnosis I have but little to add. The localization of the maximum of pain, or of the only pain, on pressure at or very near the point indicated by Dr. McBurney, two inches from the anterior superior spine of the ilium on a line drawn from it to the umbilicus, has been constant, and, in pointing out this symptom, Dr. McBurney has rendered us a service which it is difficult to estimate too highly; it has made the recognition of appendicitis, in its early stages at least, easy for every one. In several cases I have found the point of tenderness a little lower, or that it covered a relatively large area downward. It may justly be objected that the appendix is not the only organ in the right iliac fossa that may be the seat of pain, but, except in the case of women, the objection appears to have no practical importance, and the disease is much less common in women than in men. An answer that seems to me to be entirely sufficient to the objection that the group of symptoms mentioned is not sufficient for the diagnosis is found in the fact that it has been tested in a very considerable number of operations and no error in diagnosis has yet been reported. It is, of course, understood that the value of this symptom is greater in the cases in which an abscess of considerable size has not formed or the abdomen is not greatly distended and rigid.

While the diagnosis is easy in the early stage, and also in the late one in which a large fluctuating tumor is present in the right iliac fossa, it may be surrounded by much uncertainty at other stages and in other forms. The case may not be seen until after the attack has lasted several days, and it may be impossible to obtain an intelligible account of the earlier symptoms; the abdomen is distended and rigid, vomiting is persistent, the bowels have not moved. Is it appendicitis, or one of the varied forms of intestinal obstruction, or a peritonitis due to some other cause? If there is a history of a previous attack, and if pain is found especially at McBurney's point, we may, I think, make the diagnosis with considerable confidence, especially in view of the relatively great frequency of the affection.

But the recognition of the existence of appendicitis is not all that is needed. We must also seek to know its character and probable development. Is it a simple catarrh that will resolve in a few days? will pus form, and, if so, can we safely await the evolution of the abscess? or is an unprotected perforation or the rupture of a small abscess about to occur? The aids to answering these questions are few and not very helpful, and yet the questions are of the utmost importance; upon the answer turns the choice between operative and expectant treatment; the issue may be life or death.

Upon the question whether suppuration will or will not occur, or whether it has not perhaps already occurred, we can, I think, find some guidance in the height and persistence of the fever. If the temperature is above 102° two days after the beginning of the attack, suppuration is, I believe, imminent or already present.

As to the imminence of an unprotected perforation, a perforation with immediate infection of the general peritoneal cavity, I know of no guide. We have seen it occur abruptly without the slightest warning in one case (XIX), and with only such warning as was contained in slight transitory pains during the preceding two days in another (XX).

The degree of the pain at the onset tells us but little. If very severe, it may be the sign of a perforation that has placed the patient's life in the greatest danger, or, as in a case reported to this society by Dr. McBurney last May, in which a grain and a half of morphine was required to control the pain, there may be no perforation, no peritonitis, no suppuration. Let me add, however, that severe pain occurring *in the course* of the affection has very great significance; it means the rupture of the appendix or of an abscess into the general peritoneal cavity.

Grievous as the conclusion may be, it must be admitted that we are wholly unable to distinguish at the beginning the case that will end in recovery, even if left to itself, from that which will put the patient's life in the greatest danger; we are even unable to assure the patient that before the door closes behind us he may not have passed into the very jaws of death. As Dr. McBurney said in the paper to which I referred at the beginning, there seems to be no better way of improving our methods of diagnosis than the exploratory incision; and he added: "If it can be shown by future experience . . . that the exploratory incision for inspection of the diseased appendix is much more free from danger than the expectant treatment, then there could be but one answer to the question, what is the best treatment?" As part of the material to be accumulated for that purpose, my list furnishes five operations in the early and doubtful stage without a death, and even without a moment's anxiety beyond that which belonged to the taking of the step.

Turning now to the question of *treatment*, we find, as already stated, twenty attacks treated medically, with eighteen recoveries and two deaths; but if to these we add those in which surgical aid was required at a later period in the case, we have twenty-eight attacks with four deaths. This is the most favorable showing that this group of cases can be made to give for medical treatment; if previous attacks are excluded, and only those taken which I saw, the record stands sixteen cases with four deaths, a mortality of 25 per cent., and ultimate resort to surgery in eight—exactly one half. Again, including previous attacks, in order to meet as far as possible the objection that the surgeon naturally sees an unduly large proportion of cases requiring operation, we have twenty-eight attacks, ten of which (adding the two deaths), or more than one third, required surgical treatment. It is to be remembered also that most of the surgeon's hospital cases have gone to the hospital, not specifically for operation, but for treatment, and that to that extent his experience is the same as that of the general practitioner. Further, this list contains cases to which I was called as a surgeon, but in which no operation was done.

In connection with this I will quote the statistics of a physician, Dr. Fitz,* seventy-two personal cases, the largest number yet reported. He says: "Seventy-four per cent. recovered and 26 per cent. died. About one half of them were treated medically, the other half receiving surgical treatment [presumably in the later stages of the affection]. Of those treated surgically, 40 per cent. died, while of those under medical treatment 11 per cent. died. . . . The percentage of cases ending in resolution was 36 per cent., which is practically the same previously found. Medical treatment should, therefore, be limited to a little more than a third of the cases." This, I repeat, is the opinion of a physician. The rate of mortality of Dr. Fitz's list is the same as that of mine; its rate of call for surgical aid even higher—two thirds as against one half. To his expression of opinion I add that of another physician, Professor Bridge,† of Chicago: "Surgery is imperative in cases of acute inflammation in the cæcal region with rather protracted high temperature that does not show positive evidence of subsidence within two days, or three or four days from the beginning." Dr. Fitz's brief summary of the indications for operating in the early stage is practically the same. He advises it for "urgent symptoms (rising pulse and temperature, increasing distention, and spreading pain), with or without a tumor."

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* *Trans. of the Assoc. of Amer. Physicians*, 1890, p. 39.

† *Ibid.*, p. 34.

This is about as much as any surgeon has advocated. We do not urge that a laparotomy should be done in every case as soon as the patient is seen, and we fully recognize the fact that an operation is a very different thing to the person at the other end of the knife—that the average patient would choose expectant treatment with greater risk rather than operative treatment with less risk. But if death or an ultimate resort to surgery is inevitable in from one half to two thirds of all cases, and if from the remaining one third or one half we exclude those in which improvement appears by the third day, the choice is more apparent than real; it is not whether the patient will submit to operation, but whether he will have it at once or later. And if the waiting carries the chance of a complication that may make interference hopeless; if the late operation itself shows a relatively enormous mortality (40 per cent. according to Fitz, 35 per cent. in my list); if, as Fitz states, recurrence is as frequent in those who undergo the late operation without removal of the appendix as in those who recover without operation; and if, as I fully believe, the risks in an early operation properly performed are small—can it be doubted that the early operation is the wiser choice?

By waiting a day or two at the very beginning to see if the attack may not subside spontaneously, some lives will undoubtedly be lost—some of those, for example, in which unprotected perforation takes place; but these are the exceptions, the possibilities, not the probabilities, and are to be classed with other exceptions, like those in which recovery takes place by spontaneous evacuation of an abscess through the bowel. Our action must be guided, not by the possible one, but by the probable nine or nineteen or ninety-nine. If the patient, with a full understanding of the matter, is unwilling to take even that risk, then I believe the surgeon is fully justified in operating immediately, exactly as he is justified in operating after an attack has ceased in order to prevent recurrence. But in such cases the decision should lie with the patient.

And in connection with recurrences, let me repeat that the experience contained in this list of cases indicates that the danger of a recurrent attack is greater than that of a first one, and that in such it is perhaps wiser not even to wait to see how the attack will turn, but to operate at once.

A word of caution as to the operation itself. In all I have said in favor of the early operation, I have had in mind its performance by those who are experienced in operating, with trained assistants, and with all possible care and precautions. While the recognition and removal of the appendix may in some cases be as simple and easy as any piece of abdominal surgery, it is much more likely to present serious difficulties and to call for the exercise of the soundest judgment and the most careful handling.

In the search for the appendix I have found it advantageous to follow the anterior longitudinal bundle of muscular fibers of the cæcum downward and inward; it ends at the root of the appendix. For the ligature of the appendix I have always used a catgut ligature, and have simply tied it about it as in tying an artery. No ill result has followed in any case, and I have seen no reason to abandon this simple method and resort to the more difficult one of turning in the cut end and suturing the opposed peritoneal surfaces. In some of my cases the latter method would have been quite impracticable, even if any confidence could have been felt that such suturing of the inflamed, softened, and sometimes suppurating peritonæum would have held.

Free packing with iodoform gauze has seemed to be of great service in arresting suppuration and preventing the spread of infection. I should be very loath to dress a suppurative case without it. I have used it not only in the immediate field of operation, but also and quite freely over and among the adjoining loops of intestine, removing it thence usually after forty-eight hours.

The external incision I have always closed in great part, bringing the drainage-tube and packing out near the lower angle; when the packing has been used more freely, among the adjoining loops of intestine, I have brought it out in two bundles, closing the incision between them. This partial closure of the wound has not interfered with drainage, and I have thought it made cicatrization more prompt and perhaps diminished the chance of hernia.

Finally, I may be permitted briefly to summarize the views held by those who have accepted the principles advanced by Dr. McBurney a year ago, so far as I may speak for them.

Inflammation in the cæcal region is, in the immense majority of cases, an inflammation in and about the appendix.

A certain proportion of cases will resolve spontaneously within two or three days.

The others, and they are much the larger number, seriously endanger life in their evolution and are liable at any moment to assume a condition that is practically fatal.

We have no means of distinguishing those cases which will go on to the formation of an abscess without accident from those in which this evolution will be gravely interrupted.

Early laparotomy—that is, laparotomy within the first three days—enables us to arrest the process by removal of the cause, and is less dangerous than expectant treatment.

It is maintained that such laparotomy should be done, not in every case, but only in those which clearly do not belong to the first mentioned, the resolving class.

34 East Thirty-third Street.

A New Method of producing Local Anæsthesia.—"Dr. Voituriez recommends in the *Moniteur thérapeutique* a method of producing local anæsthesia which certainly possesses the merit of simplicity. It is based upon the 'well-known anæsthetic properties of carbonic oxide,' and consists in pouring on the place to be anæsthetized the contents of two or three bottles of Seltzer water, preferably by means of the siphon, which releases the water in a strong stream. The anæsthesia lasts five minutes and then gradually disappears. It is difficult to see how the 'well-known anæsthetic properties' of the oxide are exerted by external application. The effect, if any, is probably mechanical."—*Druggist's Circular and Chemical Gazette.*

NERVOUS AND MENTAL DISEASES OBSERVED IN COLORADO.*

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In a communication to the Philadelphia Neurological Society in September, 1887, I gave the results of three years' observation of the climate of Colorado on nervous and mental diseases, together with the views of several physicians in various portions of the State, practicing at altitudes varying from four thousand to ten thousand feet. In the present paper I can add three years' additional observations on the same subject. Two years of this time have been spent in Denver, where the field of observation has been much enlarged, owing to the size of the city and the hospital accommodations, which have enabled me to study cases from nearly every portion of the State.

In my former paper I stated that "among the inhabitants of Colorado we find more leisure in many places and a greater tendency to keep late hours and indulge in various dissipations than is common farther east. Many go to Colorado in search of health, and the separation from relatives and friends, added to the enforced idleness, is a source of worry and a certain amount of nervousness. Some go to better their fortunes, and, for these, investments in mines and various other uncertain speculations cause anxiety and unwonted excitement. Many who had lived quiet lives and kept regular hours for rest and eating in the Eastern States go to Colorado, overindulge in the use of alcohol and tobacco, and try their nervous systems by late and irregular hours. After allowing for all the modifying influences, exclusive of climate, I feel confident that by a careful comparison of certain nervous disturbances at sea-level with those of like nature met with in high and dry mountainous regions a difference will be found to exist; but the difference is much less than the exaggerated statements made by the laity here concerning the influence of Colorado climate on the nervous system would at first lead us to believe. That among the people of Colorado we have more of what is termed nervousness than exists in the same number of inhabitants at sea-level there can be no doubt, but consumptive invalids form a greater proportion of the population in Colorado than is found f rther east."

Most of the statements just quoted hold good to-day in certain portions of Colorado, especially in Colorado Springs, where I resided when the observations were made. In Denver, where I have made my observations during the past two years, there are less idleness and fewer consumptives in proportion to the population, but more business worry and bustle, and probably more irregular living, than in places like Colorado Springs and Maniton, where a greater proportion of the inhabitants have gone more for health than for business. If we take the people of Denver and compare them with a similar number in one of the wide-awake and business-going cities of the East, such as New York or Chicago, we shall find their habits and methods of doing business so nearly alike that but little difference in influence on the nervous system, except climatal, will be found to exist in Denver that is not active in the Eastern cities.

Most of my observations on the influence of Colorado climate on the nervous system have not been conducted by strictly scientific methods, but rather by comparing clinical observations made in Colorado with those made in Philadelphia, extending over a number of years. It must be borne in mind that conclusions reached by this method are distorted more or less by personal equation, the degree of inaccuracy depending largely upon the carefulness and faithfulness of the observer. A few facts, however, have been ascertained by strictly scientific procedure. While practicing in Philadelphia I devoted considerable time to surface-temperature observation, both in health and in disease. The number of observations amounted to several thousands, taken over various portions of the body. During the last four or five years I have continued these observations in Colorado, limiting the area mainly, but not exclusively, to the surface of the head. After allowing for changes in the mercurial thermometers, which time invariably effects, I find that the normal head temperature in Colorado is about half a degree (F.) higher than in Philadelphia.

I have also endeavored to compare the surface temperature of the body at various altitudes, but observations made at high altitudes, especially on Pike's Peak, owing to danger to my health in ascending high mountains, had to be intrusted to others, and I fear have but little value. No one unaccustomed to making surface temperature observations realizes the amount of care necessary to prevent inaccuracies. Time and time again I have requested my assistants to make such temperature observations for me, and I have repeated the observations a few minutes later and have gotten different results, the difference varying from a quarter of a degree to a degree.

Increased surface temperature in Colorado is what most clinical observers had inferred long before my observations, but the supposed condition, scientifically confirmed, becomes a fact and may help to explain many modifying influences the climate has on the functions of the organs of the body.

Mental Work.—I have often asked myself the question, and not infrequently propounded the query to others, whether a person is able to do more or less mental work in Colorado than at sea-level. The kind of mental work I refer to is hard study for several hours each day, continued over several weeks. The answer I have obtained from most persons whom I have interrogated on this subject is that they have not compared the effects and were undecided as to the results. I have tried to compare the effects on my own person, as I gave a few hours each day to hard mental work for many consecutive weeks in each year while practicing in Philadelphia, and much of the time since coming to Colorado, when my health would permit of it. I have devoted more or less time each day to mental work. I feel that the conclusions at which I have arrived from personal experience may be open to objection. My physical power of endurance is much lessened since I contracted lung trouble, for which I came to Colorado, and, in consequence, mental effort sooner results in fatigue. I have found that three or four hours each day devoted to continuous mental work and extended over a period of a few weeks so weakens and prostrates me that I am compelled to give up all reading, except light literature, for a time. When I have felt fresh and have had a zest for study, I have thought I could accomplish more in a given time than I was able to do at a low altitude; but this is merely surmise on my part. The only persons who can approximate an accurate solution of this subject are those who, in good health, accustomed to do a regular amount of study East, have come to Colorado in the same state of health to pursue similar studies to those engaged in while East.

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* Read before the American Climatological Association at its annual meeting, held in Denver, September 2, 3, and 4, 1890.

Sleep and Insomnia.—Under this heading in my former paper, the unanimous opinion of the physicians was that sleep was more easily obtained, more continuous, and more refreshing in Colorado than at sea-level. We have several classes in which to study the effects of the climate on the production of sleep, or as a cause of insomnia. Among these may be mentioned the tourist, including the business adventurer; the tired and overworked, both mentally and physically; and the health-seeker, especially the consumptive person.

On tourists or adventurers the effects are as varied as the temperaments of the individuals, and are modified by the habits and life of such persons while in Colorado. The restless ones among this class, who are never satisfied, but must have continuous excitement in scenery or some other diversion, rarely get good and refreshing sleep in Colorado unless tired out by physical exhaustion, when they run the risk of developing a temporary irritable heart, disturbances in digestion, and headache. Such persons frequently leave the State complaining bitterly of the evil effects of the climate on healthy individuals.

Those of this class who take things leisurely, more as a natural result of their temperaments than from the warnings of others who have been indiscreet, do not over-exercise, and allow themselves time for regular meals and rest, rarely fail to get prolonged and refreshing sleep.

About the only practical deductions to be derived from a study of the experiences of the tourists in Colorado are what to avoid in the invalid class.

The Overworked.—In this class are included the tired business and professional man, whose mental strain compels sedentary habits, neglect of proper exercise, and irregular hours for eating and sleeping, and the lady of family cares, as well as she whose vigor has been sapped by the unreasonable exactions of fashionable life. To these a visit to Colorado means, in the majority of cases, if too much physical exercise is not indulged in, prolonged and refreshing sleep. Such persons coming here from the East regain their strength rapidly; but we must not attribute all the good results to Colorado climate. Habits and modes of living for the time being are changed. The business man leaves worry and care behind; the professional man, relieved of the trials, annoyances, and anxious cares of his profession, seeks rest amid new scenes, while she who had been sore pressed with family cares and social obligations changes these for a quiet life. Much of the relief comes from "the change," irrespective of climate.

Having had an opportunity for a number of years, before coming to Colorado, of studying the effect of sea-shore resorts on this class of persons, I found a greater proportion unrelieved from insomnia than I find to be the case with those who seek rest and change among the mountains of Colorado, provided that a sufficiently quiet life is led here. According to the writer's experience, it is a rare exception for insomnia to continue in such persons after coming to Colorado, excluding a few cases of supposed active hyperæmia of the brain or irritable heart, reference to which will be made later.

Health-seekers.—I have found no reasons for changing the statements that I made three years ago: "That for the majority of persons, especially for the consumptive invalids, sleep is more easily obtained, more continuous, and more refreshing in Colorado than in the Eastern States. The tired, ill-nourished, and overworked person, who spent sleepless nights East, goes to Colorado and finds, as his nutrition improves, that sleep is prolonged and unusually refreshing. Cool nights throughout the summer season, as a rule, enable persons to get much more sleep and rest in Colorado than can be obtained at sea level during this portion of the year. Some, on going to Colorado, are unable to sleep well for a few nights, or perhaps weeks, while others get prolonged and refreshing sleep from the first. Those belonging to the latter group are much the more numerous. Those whose sleep is disturbed on first going to places of considerable altitude usually enjoy a sufficient amount of sleep for several months after they begin to rest well, but I doubt whether these are ever able to sleep as much as those who rest well on first going to high mountainous regions. There is a popular and almost universal belief among the laity, and physicians share this opinion, that one wears out the good effects of the climate after a few years' continuous residence in Colorado. I am firmly convinced, both from observations and from inquiries among those who have resided here a considerable length of time, that there is a great deal of truth in this prevailing opinion. Those who lead idle or sedentary lives are, I think, more liable to become sleepless after a considerable stay here than those who keep profitably employed in work that requires more or less exercise. Much severe mental work at high altitudes would be, I think, more likely to be followed by sleeplessness than the same done at sea-level. Tobacco, alcohol, tea, and coffee, if indulged in immoderately, apparently injuriously affect sleep more at high altitudes than the same indiscretions do at low elevations."

While the majority of persons who come to Colorado get refreshing sleep for a number of months, and in some instances for years, yet there are a few nervous, hysterical individuals who find great difficulty in getting refreshing sleep here. They are not able to sleep a sufficient number of hours, and the time for repose is frequently spent in broken sleep. Cases of insomnia in the East, due to active hyperæmia of the brain that is not relieved by rest, sleep poorly, I think, in Colorado. At least this has been my experience with cases of the kind. Dr. Anderson, of Colorado Springs, and Dr. Sears, of Leadville, both say that cases of cerebral hyperæmia sleep well at each of the last-named places. I am inclined to believe that they have not distinguished, in their communications to me, between active and passive hyperæmia. I am led to believe, from observations, that cases of passive hyperæmia, or venous stasis of the brain, due to mental overwork, worry, loss of sleep, etc., are able to obtain abundant and refreshing sleep. I believe also that insomnia due to organic brain changes or active hyperæmia is made worse in Colorado. In my former paper I stated that "it is very difficult to say whether medium (4,000 to 6,000 feet) elevations, or the higher (7,000 to 11,000 feet), are the better for cases of insomnia." During the last three years I have known of a few persons who have come to the medium elevations, slept well for a time, then, becoming more or less sleepless, have gone to the higher altitudes, where they again slept well. I think such cases are rare. But, on the contrary, we frequently find that persons who become troubled with insomnia in the higher altitudes, where they had slept fairly well for a length of time, coming to the medium elevations of Colorado obtain refreshing and prolonged sleep. Pure air, good weather, and the amount of bright sunshine, even in winter, inviting persons to live outdoors a good portion of the time and take more exercise than they were accustomed to do East, are important agents in enabling one to get refreshing sleep in Colorado. What lessened atmospheric pressure has to do with inducing sleep, making it more profound, as some who reside in very high altitudes maintain, has yet to be determined. Those who have had experience with the pneumatic cabinet, and have noted the sensations experienced by their patients, may be able to enlighten us on this subject.

Irritable Nervous System, or Nervousness.—The opinions of the physicians of Colorado differ widely respecting the influence of the climate on a delicate and irritable nervous system, some believing the influence is great, and others that it is slight, if any exists.

An additional three years' experience with nervous affections found in Colorado enables me to emphasize what I said on this subject three years ago: "From what I have learned from observations and inquiry, I have no hesitation in saying that the inherent nervous temperaments—not those who are nervous from malnutrition, which the climate may and does remove in many instances—are made worse by a prolonged residence in Colorado. Further, I believe, and I think I am expressing the opinions of a number of physicians there, that many who are not usually considered nervous become so after a prolonged residence in Colorado." The nervousness may manifest itself by sleeplessness, irritable heart, with a tendency to passive congestion, especially of the gastro-intestinal mucous membrane, by a loss of appetite, failure of strength, lessened power of endurance, and considerable loss in body weight. Some suffer from restlessness and irritability of temper, and some complain of inability to concentrate the mind long on any subject. Persons thus affected and contemplating making their home in Colorado should not try to overcome their sensations by a prolonged and uninterrupted stay here, but they should try to spend a month or two each year at sea-level, which is almost invariably followed by an improved condition of the nervous symptoms.

Dr. Reed, of Colorado Springs, informed me that he had observed that child-bearing nervous women, after a prolonged stay in Colorado, recover less satisfactorily from the trying ordeals of the lying-in room after the birth of the second or third child than they had done after the first. The intensely bright sunshine, and the great amount of it, which is the boast of Coloradians, the dry atmosphere, and the winds, it seems to me, are factors in irritating an already irritable nervous system. Some have tried to lay the cause at the door of lessened atmospheric pressure. This may have something to do with it, but how much it is impossible to say.

Before beginning this paper I was informed that Dr. H. A. Lemen, who has practiced medicine in Colorado for a number of years and paid especial attention to diseases of women, would write on the influence of climate on women. I regret that his engagements have been such that he has been unable to contribute a paper on this subject. That the nervous system of woman is more irritable than that of man every one will admit, and that she in consequence suffers more from the irritating effects of our climate is self-evident. My note-book shows that a large percentage of those who suffer from the irritating effects of this climate is composed of women; but I will not go into details, hoping that Dr. Lemen, at some future time, will take up this subject and elaborate it.

Hysteria.—Three years ago I was able to give the results of the experience of various physicians with this protean disease as it occurs in the smaller towns in the State, and of my observations of it in Colorado Springs. My conclusions were then that it was of lighter form, shorter duration, and much less frequent in proportion to the population than observed in the large Eastern cities, but at the same time I endeavored to account for the infrequency from the habits of the people and their surroundings, and expressed an opinion that had we in Colorado all the conditions of a large Eastern city favorable for the development of hysteria, it would be found more frequent here than it is in cities at sea-level. Two years' experience in Denver, where conditions favoring the development and manifestation of the disease exist, convinces me that hysteria is not infrequent here, and that it is found in all forms, from the mildest to the severest. I have witnessed three cases in the male. From my present experience I am unable to say that the disease is of shorter duration and yields more readily to treatment than is found in the eastern portion of this country.

Chronic Alcoholism and the Opium Habit.—What must impress itself on every observer in Denver is the immense number suffering from the chronic effects of alcohol and opium. Other causes than climatal may account for this. A large proportion of those whom I have had an opportunity to interrogate on this subject admit having been addicted to the habit before coming to Colorado. Denver during the last few years has been the Mecca sought by those broken down financially, and in this class alcoholism and the opium habit are common. Whether there is anything in the climate of Colorado tending to indulgence in alcohol and opium more than what is found at sea-level I am unable to say. Whether a larger proportion of the population here has begun the over-use of alcohol, or contracted the opium habit, in Colorado, than is found at sea-level, many years of carefully studied statistics must answer.

Chorea.—The physicians who favored me with their experiences with chorea three years ago were almost unanimous in their opinions that the disease is more frequent, severer, of longer duration, and less amenable to treatment in Colorado than at sea-level. I then expressed the opinion, from an experience with the disease in Colorado Springs, that it was unfavorably influenced by the climate.

Some of the physicians who were kind enough to answer my inquiries stated that they invariably sent all their cases of chorea to lower altitudes, with decided benefit to their patients.

During the past three years I have had the opportunity of treating and seeing in consultation numerous cases of chorea in Denver. So far, without a single exception, they have yielded to the ordinary treatment for this disease. Some cases have developed at low altitudes, and from force of circumstances have been brought to this city. These have yielded to treatment, but in one case the movements at first seemed to be exaggerated by the change to this altitude. My treatment has invariably been, in cases where the choreic movements were great, full doses of antipyrine or phenacetin until the movements had nearly ceased, when Fowler's solution of arsenic has been carried to the point of toleration, the dose reached in some cases being eighteen or twenty drops thrice daily. My former statements will have to be modified by saying that chorea at this altitude (about five thousand feet) seems to yield about as readily as at sea-level, and with no greater tendency to relapses.

Neuralgia.—A more extended experience convinces me that neuralgia is a much less troublesome and less frequent disease in Colorado than in low malarial districts. I have seen several cases of malarial neuralgia rapidly yield after coming to Colorado.

Migraine seems to be favorably modified on first coming to Colorado, but the attacks are not broken up, and, after a few months, the trouble returns and seems to be more persistent than it was at low altitudes.

In some of these sufferers, upon a return to a low altitude after they had spent some months in Colorado, long intervals with entire freedom from the disease have resulted.

Multiple Neuritis.—During the last six months I have seen six cases of this disease. So far I have been unable to discover any points of difference between the course, severity, and duration of the disease here and at low altitudes.

Epilepsy.—In my former communication the answers of the physicians in reply to my inquiries concerning the influence of the climate on epilepsy varied so greatly that no conclusion could be arrived at; some believed that the disease was unfavorably influenced by a resort to this climate, that it quite frequently originated here and proved rebellious to treatment; others thought it was uninfluenced by the climate, while some thought it was a very infrequent disease in Colorado.

I have had an opportunity of personally studying twenty-one cases of epilepsy since coming to Colorado. Sixteen of the twenty-one originated at low altitudes outside of Colorado, leaving five cases which began in some portion of the State. Of the Colorado group, the age at which the disease began was at the second, third, fourth, seventh, and thirtieth year, respectively. Of the imported cases, three began at the second, two at the fourth, six at the tenth, three at the sixteenth, one at the thirty-third, and one at the thirty-seventh year.

Causes.—Of the Colorado group, in one, injury to head from a fall; in one, hydrocephalus, and in three the cause is unknown. Of the imported cases, gastro-intestinal disturbances in infancy seemed to be the exciting cause in four, injury to head in five, and unknown in eight.

Sex.—Colorado group, three males, two females. Imported cases, there were fifteen males and one female.

Severe or Light Attacks.—In the Colorado cases three suffered only from the light or *petit mal*, and in two the *grand* and *petit mal* were found. In the imported cases all suffered from the severer manifestations of the disease, although a few also had occasional *petit-mal* attacks.

Time.—Of the Colorado cases, in one the seizures were limited to the waking hours, and in the other four they occurred both diurnally and nocturnally. Of the imported cases, in only one were the seizures of the diurnal character, and in the other fifteen the attacks occurred indifferently both day and night. So far I have not seen a case of epilepsy in Colorado in which the attacks were limited to the sleeping hours.*

Mental Effect.—Of the Colorado cases, there is decided mental failure in three, and in two the mind seems unaffected. Of the imported cases, insanity has developed in four and mental failure in ten, and in two the mind seems well preserved. In all of the Colorado cases treatment has seemed to be attended with the usual results found at low altitudes. The result of the climate on the sixteen imported patients is hard to determine. Two were excitable and unmanageable at times before coming to Colorado. These were soon decided to be insane after coming to this State, and one has since died in a condition of status epilepticus. On the fourteen others the climate had no appreciable effect. It will be observed that only one female epileptic is found among the sixteen coming from a distance to Colorado. This is accounted for from the fact that female epileptics rarely leave home. I have been unable to perceive that the climate of Colorado, especially at Denver, materially modifies the course of epilepsy, except, it may be, for a short time after the arrival of such patients here, when the disease is frequently benefited if the person keeps sufficiently quiet.

Insanity.—Since coming to Denver I find it even more difficult to determine the influence of Colorado climate on the insane and in the causation of insanity than I did while practicing in Colorado Springs. Of the one hundred cases of insanity of which I have records of having seen during the past year in this city, about fifty per cent. were insane before coming to Colorado, and ten of the remaining fifty became insane in other portions of Colorado than Denver. During June of the present year I saw nine cases of insanity, six of which, so far as could be learned, developed in Colorado, but only four of these in Denver. From the 1st to the 19th of August I saw sixteen cases, only seven of which developed in Colorado. In July I saw six cases, three of which developed in Colorado and three outside the State.

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* Since this was written, a case of epilepsy with attacks only in the early morning hours (four or five o'clock) has come under my observation.

This State has not as yet made adequate provision for the care of her insane, and some of the adjoining States and Territories are behind Colorado in caring for their insane, and, in consequence, there is a small insane nomadic population that travel from State to State and from city to city, as they can succeed in obtaining from county commissioners free transportation. As jury trials are expensive to adjudge persons of unsound mind insane, it sometimes happens that the cheapest way to get rid of such persons is to send them to an adjoining county or State.

Until Colorado succeeds in establishing ample accommodation for her insane, and until we can get the records of every case of insanity developing in the State and leaving it, it will be impossible to ascertain our insane population. It is evident that the proportion of our insane population in this State is rapidly increasing, but how fast statistics give us no idea.

Some patients with insanity, especially of the maniacal form, are benefited on being removed to a lower altitude. The number of cases of insanity developing in Colorado and taking a depressive form far outnumber those of an expansive nature. As yet there is no private asylum in the State where the insane with means to defray their own expenses can be cared for, and in consequence all such are sent to Eastern asylums.

Temporary Effects of High Altitudes.—Many go to the summit of high mountains and experience no inconvenience, while others at times can perform such feats with impunity, but at other times, depending probably upon the condition of their health, find mental or physical symptoms are produced thereby, and yet a third class is almost invariably inconvenienced by high altitudes. The following case reported in a former paper is to the point: "An intelligent young man, a tutor, in excellent health, started from Manitou early one morning in June, 1887, to go on horseback to the summit of Pike's Peak. The distance is about twelve miles. He had eaten a fair breakfast, but took no stimulants that day, either before or during the trip. He accomplished the ascent of the mountain in a few hours, in company with several others, and experienced no inconvenience. The party remained on the Peak about two hours before beginning the descent. Nothing peculiar was noticed in the young man until he had descended about two thousand feet, when some of the party observed his strange remarks and absent-minded condition. It was found on inquiry that he had forgotten nearly everything that had occurred during the day. When he reached Manitou, late in the afternoon, he did not remember at what hotel he had been stopping. He had paid for the hire of his horse, and his guide for his services, in the morning before starting, but on returning had forgotten all about it. When he reached his room in his hotel he had forgotten what he had done with his horse, and started to look for him. He remained in this confused and amnesic condition about thirty-six hours. I fortunately had an opportunity to interview him a few days after the strange occurrence. At the time of my conversation with him he said that he then remembered every incident of the day's journey, of which he was oblivious on the day of the ascent of the Peak. He told me he was not conscious at the time that anything was wrong with his memory, but was conscious of saying foolish things to which he could not help giving expression. He could afterward recall his dazed condition, loss of memory, and the laughter which he provoked among his party. He stated that he had on previous occasions ascended high mountains, some as high and some higher than Pike's Peak, but never before had had a similar experience from mountain climbing."

I have reported this case in full, as it illustrates a freak of memory found in a recent case of insanity which came under my experience. In July, 1887, a gentleman from Boston, member of a mountain climbing club, went to Estes Park, at an elevation of between 8,000 and 9,000 feet. At the end of a week or two he felt, as he expressed it, as though he were in a furnace, a sensation of intense heat, and began to lose flesh rapidly. In July of the present year (1890) I met an Englishman who had been in this country only a short time. He, in company with a number of gentlemen, was driving over some of the high ranges in the neighborhood of Leadville, at an altitude of 11,000 feet. He felt well and was quite hilarious, but suddenly became paretic in his legs and was unable to stand without assistance from a person on each side of him. He experienced no pain. The paresis disappeared as he reached a lower altitude, and he has had no difficulty in walking since. I have heard of one other who was mentally confused in making the ascent of high mountains in Colorado.

So far I have had nothing interesting to report from Professor Pickering, of the Astronomical Department of the Harvard University, owing to the fact that Pike's Peak was abandoned by him and his assistants after the first year (1887) as a point for observation.

Inflammatory Lesions of the Brain and Cord.—Under this division of my paper, read in 1887, before the Philadelphia Neurological Society, I gave the opinions of several physicians of Colorado in respect to the influence of the climate. Most of them thought inflammatory lesions of the brain and cord comparatively rare. Dr. Anderson, of Colorado Springs, stated: "The only lesion of the brain with which I have had any experience here has been softening, and I would say, from experience, that long residence in high altitudes is one of the most prolific sources of this affection. A number of cases in 'old timers' have come under my observation, and have proved fatal." Dr. Jacob Reed, Jr., of the same place, thought that he had met with tubercular meningitis more frequently in Colorado Springs than he had in the same number of children either in Philadelphia or Michigan. So far as I know, only three cases of tubercular meningitis occurred in Colorado Springs from 1884 to 1887. The population during these years averaged about 6,000. I do not know the percentage of deaths from tubercular meningitis that occur in the Eastern towns the size of Colorado Springs. One death annually in a population of 6,000 seems to me comparatively small, and if we take into consideration the large proportion of the children of Colorado Springs born of consumptive parents, the death-rate is proportionately smaller to the consumptive population. It might be that the open-air life led by the children, and the bracing effects of the atmosphere, together with cool nights, even in midsummer, insuring refreshing sleep, enable the issue of consumptive parents to overcome the tendency to the development of the disease. Certainly this seems to be the case with reference to the development of tuberculosis of the lungs in children that are born and reside in Colorado. The dryness of the atmosphere favoring free perspiration is evidently a factor in the prevention of tuberculous and other inflammation of the central nervous system. My experience in Denver leads me to believe that tuberculous affections of the brain are proportionately larger here than in Colorado Springs. During my fourth year in Colorado Springs I saw two cases of infantile paralysis; none during the previous three years. I have observed only four such cases during two years in Denver. I did not hear of a single case of non-traumatic and non-tubercular meningitis during four years' residence in Colorado Springs, and have heard of only one during the past two years in Denver. I have studied six cases of acute myelitis—one of tumor of the cord, five of tumor of the brain, and eleven of chronic systemic degeneration of the cord—during the past two years in Denver, and have been unable to find any points of difference in the histories and progress between these troubles here and those of like nature observed at sea-level. Of their comparative frequency in this altitude I am unable to form an opinion, as most of the cases of gross lesions of the central nervous system observed here have been seen in hospitals in patients from various portions of the State. It is probable that persons suffering from chronic degenerative conditions of the cord experience an apparent improvement in their nervous conditions on coming to Colorado, not, I believe, from the direct influence of the climate on their nervous affections, but, indirectly, on account of improved condition resulting from the stimulating and bracing effects of the atmosphere. Dr. Solly thinks he has seen temporary good effects produced by a residence in Colorado on chronic inflammatory lesions of the cord.

Chronic Degeneration of the Brain.—That mental failure begins earlier in life in persons who have lived and struggled for many years in Colorado, and is in many cases attended by symptoms of chronic degeneration of the brain more frequently than is the case in similar individuals East, is recognized by the profession and laity generally. That this belief is correct, after six years' observation, I have no doubt. The practical question is, Is it due to long residence in high altitudes, as many maintain, or has it been caused by something peculiar, or at least prominent, in the lives and business habits of Colorado's pioneers? To answer this inquiry intelligently, we must consider several factors in the lives of these men. These persons lived in Colorado many years, surrounded by treacherous Indians and still more treacherous desperadoes. The mining interests of the State from 1859 to 1870 were her main and almost her sole resource for those seeking wealth. The uncertainty of fortune and the feverish excitement in the speculative miner's life—prospective millions to-day, realized poverty to-morrow—kept them under great mental strain. For some, to the prolonged mental excitement and worry we may add irregular hours for eating, often insufficient food and sleep for days, and no relaxation for years; and for others we may still add indulgences in alcoholic and venereal excesses; and still for a third class, gambling. Are not these causes sufficient to wear a man out at any altitude and in any climate? What is the cause of the early mental and physical wreck seen in so many of the Wall Street brokers and railroad magnates? Is it altitude? Certainly not. Then why attribute so much to high altitude as the factor determining the early break-down of persons who have crowded so much worry and mental excitement into so short a space of time? Again, some of the pioneers brought their wives to Colorado with them, and if altitude was the great cause of mental failure, these too should suffer in a similar manner. Practically this is not the case. The female often becomes nervous and sleepless, but she does not suffer in Colorado from chronic brain degeneration in the same proportion as the male sex. I fortunately have had opportunities to examine the brains and blood-vessels of some who have suffered and died in Colorado, comparatively early in life, from chronic brain degeneration. The blood-vessels have been found diseased in every case, and in some slight chronic meningitis has co-existed. I believe arteritis is the primary lesion in the majority of cases of early mental break-down in Colorado. The climate may, and doubtless does, play a small part in the matter, but not nearly so great as has been popularly attributed to it.

Apoplexy.—Three years ago Dr. Strickler, of Colorado Springs, with an experience of seventeen years there, and Dr. B. P. Anderson, with ten or twelve years' experience in the same place, stated that they had not seen a case of cerebral hæmorrhagic apoplexy in Colorado. This struck me as being very strange, and after referring to three cases of apoplexy that I had seen, or of which I had personal knowledge, occurring in Colorado Springs in 1887, I added: "I see no reason why hæmorrhagic apoplexy should not be as frequent in Colorado as we find it at sea-level." During the last eighteen months I have either had under my own care, or seen in consultation with other physicians, seventeen cases of apoplexy. I doubt if the climate has much to do *per se* in the production of apoplexy, but I do believe that violent exercise in high altitudes in persons with weak cerebral arteries is more dangerous than in such persons at low altitudes.

Sunstroke or heat stroke is almost unknown in Colorado. A few years ago it was said never to have been known to occur here. Its absence is accounted for by the active capillary circulation of the skin, by the free evaporation of moisture from the surface of the body, and by the increased amount of watery vapor given off from the pulmonary mucous membrane into the rarefied and dry air. During the summer of 1889 I saw a man who had been overcome and who died from the effects of the heat while working in the Grant Smelter of this city. The day was warm and sultry for Colorado. The man was working near one of the large furnaces in the smelter, and his death was due to artificial heat.

Paræsthesia.—Two cases of paræsthesia, one of which was seemingly due to high altitude, have recently come under my observation. After studying them more fully, if they should prove to be as interesting as they now seem, I intend to publish a detailed account of them.

CRUDE DRUGS
COMPARED WITH CHEMICAL PRODUCTS.

By JOHN AULDE, M. D.,
PHILADELPHIA.

The lack of uniformity in galenical preparations has resulted in the development of two distinct classes of medical practitioners; on the one hand must be classed a large number who, knowing the unreliability of our medicaments, prescribe them indiscriminately, not to say recklessly, while others would have us believe that all remedial agents are for practical purposes worthless, sneering at any attempts made with a view to inaugurate a scientific basis for their employment. The former are not inaptly referred to as "plungers," and the latter have long been known as "therapeutic nihilists." It is quite possible that in time these two extremes of the medical army may be brought together through the exertions of those who occupy a position midway between the two factions. The solution of this problem, however, will most likely be attained by a compromise which shall have for a basis the employment of definite chemical products, and, with a view to advance the interests of the profession, I shall consider briefly some of the comparisons and contrasts connected with these two classes of preparations.

In conversation lately with a physician who had practiced for quite a number of years in the city of London, I was surprised to learn that until recently a majority of the physicians confined themselves to the use of tinctures, believing that they were far more reliable than fluid extracts. He assured me that many of the fluid extracts were practically inert in respect to distinct physiological activity, and that they were useful only in proportion to the alcohol they contained; these preparations, he said, could be taken in considerable quantity without other apparent effect than that which would naturally follow the ingestion of so much alcohol. Since the publication of my paper on Assayed Galenical Preparations, in this Journal (August 30, 1890), I have received a number of commendatory letters, and am therefore prompted to add some further reasons for the position I have taken. One gentleman writes as follows: "I have been trying to follow your advice in the administration of drugs to the letter, and in most cases have had phenomenal success, but occasionally I have failed to get the desired results; but, after reading your last paper in the Journal, I am led to think that my lack of success was possibly due to the administration of drugs that were not up to the standard, although I have tried to be very careful in that particular." Another practitioner writes me enthusiastically in regard to the wants of the physician in the direction of standardized galenicals, insisting that the physician as well as the patient suffer from this lack of uniformity. As an evidence of the dangers connected with our practice without the proper safeguards, he relates an incident which occurred in a hospital for the insane. It seems that the resident had been using the fluid extract of conium in teaspoonful doses to lessen the excitement and produce a calmative effect upon some of the inmates who failed to obtain needed repose. A new supply of the drug had been obtained, and the physician in charge was not aware that the product came from a different manufacturer, and, the usual dose being given, the following morning no less than seven patients were found dead. There could be no other conclusion than that these deaths were due to the greater activity of the new preparation which had been substituted for the old. With our knowledge of the physiological action of drugs, I doubt if such an accident could occur at the present day; our knowledge of the character and qualities of drugs is too thoroughly diffused, and the general intelligence which pervades all classes of medical practitioners forbids. If this were not the case, I should be inclined to believe that the regulation of these preparations was not an unmixed blessing.

The foregoing remarks will serve in a measure to indicate the principles which should govern us in the selection of galenical preparations; at the same time it will show that alkaloids, or their salts, which are true chemical products, might often be used with safety, and that they might be expected to supplant entirely the use of galenical products. It must be remembered, however, that the crude drugs have been used for a long time, and that by this usage we have become familiar with their physiological actions, statements which do not to any great extent apply to alkaloidal preparations. Again, many of these crude drugs contain alkaloidal substances, as well as resins and oils, which exercise more or less influence when taken into the economy, and consequently the same results can not be expected from the use of a single principle which has heretofore been obtained from the whole. It is a well-known fact, too, that alkaloidal substances in crude drugs often counteract the effects of one another; but I do not care to go into a discussion of that question at the present time. It will be sufficient to say that although the use of alkaloids is at present subsidiary to the employment of crude drugs, the true basis of medication rests upon this as a foundation, and in time I am convinced that, for the most part, the use of crude drugs will become subsidiary to the administration of the alkaloids and their salts.

Unfortunately, the method of determining the physiological activity and chemical value of galenical preparations by assay process has been seriously opposed, although, strange to say, no one has made objections to the demands of experimental physiologists for reliable products as regards physiological activity for laboratory investigations. The necessity for integrity in laboratory products is freely admitted, but the same rule applied to medicaments to be used in the treatment of disease is regarded with disfavor. The exact effect of duly measured products upon dogs, rabbits, and guinea-pigs is esteemed of more importance than the saving of human life. Arguments have been advanced purporting to show that the variations are such that it would be impossible to accomplish anything which would further the interests of the practitioner by the methods proposed. This conclusion, it will be seen, throws the entire responsibility upon the physician, and compels him to adopt what is known among carpenters as the "try rule"; if the usual dose of the selected drug fails to produce the required effect, a larger quantity must be tried. The variations occurring in the alkaloidal purity of cinchona are cited to prove the unwisdom of attempting to govern finished products by the proportion of alkaloids. Thus, in the examination of a number of specimens of cinchona calisaya, Rusby finds that they vary from 2·2 per cent. total alkaloids to 5·1 per cent.; in cinchona red the variation was even greater, being as low as 5·2 per cent. and as high as 9·8 per cent. It will be seen at a glance that a drachm of one preparation would carry about four times the quantity of alkaloid found in the least rich of the crude drugs and the use of preparations of this class without some absolute knowledge of their supposed physiological powers would be exceedingly hazardous. Instead of being an argument against standardization, therefore, it proves beyond question the absolute necessity for the adoption of some such process as a guide for the practitioner.

An explanation will serve to show that the selection of cinchona as a basis for opposition to standardization was unfortunate, because these extraordinary differences occur in the products obtained from cultivated plants. The growers have discovered certain artificial means by which the alkaloid quinine can be greatly increased at the expense of the cinchonidine and other less desirable alkaloids, and this circumstance has been urged by the opponents of standardization, who would have us believe that the presence of a certain percentage of alkaloid is no true criterion of the value of the drug. It is alleged, for instance, that in the case of nux vomica the determination of the total amount of alkaloid would furnish no indication of the exact amount of strychnine contained. The sophistry of such argument is easily unraveled; if the presence of a larger or smaller amount of alkaloid does not modify the action of the drug, no further investigation is required. If the activity of the drug is increased or diminished in proportion to the total amount of alkaloid contained, the physician will learn to make due allowance for its presence, and will not be compelled to await the development of the characteristic physiological action when prescribing different preparations, or when administering it to different patients. How much better would it be were each product made to conform to certain tests as regards alkaloidal purity, thus relieving the physician from the peculiar and trying position as that in which he would be placed!

A distinction must be made between cultivated or domestic plants and natural plants—*i. e.*, those found growing wild. In deciding upon a preparation of digitalis, this is a most important matter. Professor Bartholow, in his lectures to students, has so regularly and persistently advised them to make sure that their patients obtain the English digitalis instead of the square packages put up by the Shakers, that his ideas on this topic have been disseminated all over the world. These are particulars which heretofore have not received much attention at the hands of practitioners, but doubtless in the future assayed galenicals are destined to occupy an important position in the armamentarium of the physician.

There are several other galenical products to which I should like to call attention, principally because of the variations which have been found in the crude drug, as I believe such knowledge should be as widely disseminated as possible. An examination of twenty-six specimens of belladonna root showed that the maximum alkaloidal strength of the different samples was about 50 per cent. greater than the minimum; that is, a single drop of the tincture or fluid extract made from one preparation would contain about two thirds of the alkaloidal strength of the other. The following are the exact figures: Minimum strength, 0·53 per cent. atropine; maximum strength, 0·74 per cent. total alkaloid. The examination of twenty-two specimens of belladonna leaves showed even a more decided variation, being 0·2 per cent. and 0·69 per cent., respectively.

An examination of ten specimens of colchicum seeds showed marked variations in alkaloidal strength, the percentage ranging from 0·4 per cent. to 1·06 per cent., or, in other words, one preparation was about two and a half times stronger than the other. Eight specimens of ipecac varied from 2 per cent. of emetine to 4·1 per cent., making one preparation twice the value in alkaloidal strength of that containing the minimum amount. Nine specimens of nux vomica varied from 1·1 per cent. of total alkaloid to 4·86 per cent., or we may estimate that the best preparation was about five times the value of the poorest. Fifteen specimens of stramonium leaves varied from 0·21 per cent. of alkaloid to 0·5 per cent.; or, to put it in another form, the best was two and a half times more active than the poorest sample. The foregoing memoranda have been extracted from a paper by Dr. Frank Woodbury (*Times and Register*), and are the actual records of the scientific department of Messrs. Parke, Davis, & Co., who have shown a commendable activity in bringing this question before the profession.

While it is true that the above includes but a small portion of the drugs in general use, and while it may be urged that a number of drugs, such as aconite, gelsemium, and hyoscyamus, can not practically be submitted to this test, owing to the very small proportion of the alkaloid and the expense connected with the operation, other methods which answer our purpose have been adopted and are found available. Thus aconite is submitted to the physiological test, gelsemium is subjected to certain manipulations with

Mayer's reagent, and a like method has been followed in the estimation of the qualities of hyoscyamus and other products.

In view of the extraordinary differences in alkaloidal strength of the crude drugs mentioned above, it seems a waste of words to argue the desirability of having some definite standard adopted which shall enable manufacturers to give us substantially the same product. The standard should not be so high that it would be difficult to conform to the requirements when the crop happened to be of an inferior quality; but, on the other hand, it should be fixed at a point that would insure the best results to the patient as viewed from the standpoint of the physician. At the same time, it would be necessary to make a distinction between certain kinds of crude drugs, just as is now made with reference to the different brands of cinchona, or to the two varieties of digitalis leaves mentioned. It seems incredible that any physician should object to the use of preparations which had been prepared under the supervision of thoroughly qualified chemists, who aim to afford him some positive information concerning the value of the drug he employs when studied from the chemical side. It is but reasonable to suppose that such preparations would be more acceptable to the intelligent physician than crude drugs prepared haphazard without any reference to their active principles, and which I have shown may vary all the way from a trifling percentage to 400 or 500 per cent. If it were a financial question, the percentages would very quickly receive attention.

1910 Arch Street.

Induction of Abortion for Uncontrollable Vomiting.—According to the *British Medical Journal*, "Dr. Pugliatti, of Novara, recommends that in cases of hyperemesis gravidarum where milder means have failed, abortion should be induced in the following manner: A bougie about two fifths of an inch thick is pushed upward to the extent of two inches into the uterus. After two or three hours this bougie is replaced by another slightly thicker, and after the same space of time a third, thicker than the second, is introduced. This last bougie is left in until distinct uterine contractions are set up. This method, according to Dr. Pugliatti, is free from danger. The membranes are not damaged, and in the worst cases there remains the great advantage that the lower uterine segment has been brought into a condition favorable for further proceedings."

Color of Beef Extract.—"It is not generally known that pure beef extract is of a dingy, unpleasant gray color, and that from its repulsive look, especially when dissolved or made into beef tea, it would, unless doctored up as is now done, have very little if any sale or use. Science and art come in nicely to remedy this defect by furnishing a harmless dye—namely, burnt sugar or caramel. This also improves the flavor as well as the appearance. We see no harm in this apparently nice little innocent deception—especially if druggists and physicians are fully acquainted with it, as they soon will be."—*Druggist's Circular and Chemical Gazette.*

Phenacetin in Typhoid Fever.—According to the *Lancet*, "Dr. Sommer has used phenacetin with great success in the treatment of typhoid fever, thus confirming the favorable views of its action which have been expressed by Masius and others. The dose employed for adults was four grains, which was repeated from two to four times during the twenty-four hours. Children were given only half this dose. No less than sixty cases were treated in this way, with but one fatal case, about which it is noted that the patient was not subjected to phenacetin treatment until three weeks from the commencement of the attack. In no case were there any serious complications."

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RHACHIOTOMY FOR PARAPLEGIA.

In the July number of the *Annals of Surgery*, Dr. F. X. Dercum and Dr. J. William White report the result of a rhachiotomy on a German, aged fifty-five years, who was attacked in 1887 with severe burning and shooting pains in the shoulder and arms. Shortly after the development of these symptoms an increasing weakness of the lower extremities began that rapidly resulted in paraplegia, including the anal and vesical sphincters. Anæsthesia extended to the level of the nipple; trophic bed-sores developed; the deep and superficial reflexes became exaggerated; and percussion over the third, fourth, and fifth dorsal spinous processes caused pain, while percussion of the head in the direction of the spinal axis produced a severe girdle pain at the level of the nipples. The patient became worse during ten months of internal medication, so the first, second, third, fourth, and fifth dorsal spines and laminæ were removed, and the exposed thickened dura incised. The dura was attached to the pia by numerous adventitious bands that were broken down; nothing further was found about the spinal cord. A few hours after the operation the girdle pain passed off, the following day sensation in the feet returned, in two months voluntary motion was possible, and there was some control of the sphincters. In twelve months the patient had normal control of the sphincters and could walk about the ward, though his gait was a trifle spastic, and he had decided lordosis. The authors consider that more relief was afforded in this case than was explicable by relieving pressure, and they attach considerable importance to the rupture of the meningeal adhesions and the reaction of nutrition consequent upon the operation.

The authors are to be congratulated upon their success, that finds a parallel in a case reported by Mr. W. Arbuthnot Lane in the *Lancet* for July 5, 1890. A male, aged thirty-two years, noticed in 1888 a pain in the middle of the back while running; six months later a prominence appeared on the spine that was treated as a ganglion, but that soon developed into an angular curvature. About March 1st a weakness began in the right leg, and the toes caught a little in drawing the foot forward; soon (May 2d) there was complete paraplegia, with analgesia of the extremities, and the superficial and deep reflexes were markedly present. There was a sharp angular curvature at the tenth dorsal vertebra. On May 13th the spinous processes and laminæ of the ninth, tenth, and eleventh dorsal vertebræ were removed with a bone forceps, and a large mass of granulation tissue, resembling tubercular synovial membrane, was exposed in the canal. In the center of the neoplasm were about eighty minims of purulent material, that was let out in removing the growth. A small portion of the latter extended forward to the right of the dura; the meninges were healthy. Power of motion of the extremities and diminution of the exaggerated reflexes rapidly ensued, and at the time of the report the patient could use his legs freely and with force.

The justifiability of surgical interference is demonstrated by the conditions found in these cases, that suggest the resort to operative measures in analogous conditions.

NORMAL PARTURITION COMPLICATED BY AN EXTRA-UTERINE TWIN FŒTUS.

Dr. Harriman, of Laconia, has reported to the State Medical Society of New Hampshire a case which he regards as one of twin pregnancy, with one fœtus intra-uterine and the other extra-uterine. From his account of the case, given in the *Boston Medical and Surgical Journal* for August 14th, it appears that the parturition of the intra-uterine child took place without much difficulty at full term. The patient was a primipara, aged thirty-two. The course of gestation had been marked by few unusual symptoms, except that at about the fourth month considerable pain was complained of in the abdomen; the last eight weeks were painful and locomotion was somewhat difficult. As seen at the time of confinement, the abdomen was greatly enlarged and unusually shaped; just above the pubes a rounded tumor or eminence presented itself, resembling a child's cranium, and lifting the integument and underlying parts to about the size of a man's hand. In the right lumbar region a second, smaller, eminence could be seen, about on a line with the umbilicus; while directly above the umbilicus, at the fundus, two smaller parts could be felt in close proximity. These various elevated or salient parts were believed to belong to the fœtuses of an ordinary case of twin pregnancy, rendered especially tangible by reason of an excessive thinning of the abdominal parietes. The duration of the labor was seven hours, and it resulted in the birth of a seven-pound living female infant, soon followed by its placenta and membranes. All pain ceased, but there was evidently another child, apparently fully grown, and it was in the abdomen. Strong pains were experienced on the day after delivery, and it was believed to be necessary to examine the patient under chloroform. Bimanual manipulation was made, and it showed not only that the uterus was entirely emptied, but that a fœtus presented with its head above the pubes, probably as large as the one expelled. The back of the child was against the abdomen of the mother, and the limbs, hands, and feet could be easily outlined through the thin intermediate tissues. No signs of life were at any time recognized in the abdominal fœtus. Pains recurred for several days after the effects of the anæsthetic had passed off, requiring large doses of opium to afford relief; but at the end of twelve days very little pain was complained of. With the exception of these pains, there were no untoward symptoms during the convalescence. The size of the ectopic tumor was gradually reduced, under purely expectant treatment, until, at the end of three months, it was not larger than a good-sized cocoanut. The patient had been well since delivery, and was ignorant of the nature of her still interesting condition. Seven months had elapsed since her confinement when the report of the case was made, as above stated, and there had been but little further diminution in the size of the tumor and no indication for surgical interference for the removal of the fœtus.

MINOR PARAGRAPHS.

EXTRAVAGANCE IN THE NAME OF CHARITY.

Dr. P. H. Kretzschmar, the presiding officer of the Board of Supervisors, at Brooklyn, has recently had occasion to write a very caustic veto touching a bill for repairs at the branch asylum for the insane at St. Johnland. The branch, also called the County Farm, is forty-two miles distant from the old asylum at Flatbush, and has proved an unexpectedly heavy burden on the taxpayers on account of "extras." It seems likely to cost the county only a trifle less than $2,000 per capita to simply house the pauper insane of that community, the cost of the land, chiefly farm lands and forests being included. There are costly stone-built and fully equipped hospitals in our cities that have cost not more than $2,000 per capita, cost of the land inclusive; while some others, less ornate but equally well adapted to their purposes, have been constructed for $1,000 a patient. From the standpoint of the medical superintendent, the effect of the political pilfering of the pauper lunatic is deplorable. The medical men can not be ignorant that their patients are being defrauded, and yet their own mouths must be kept closed; that their "enthusiasm of humanity"—be it ever so bright and noble at the outset—is tarnished in an atmosphere of jobbery; and that their best efforts for the treatment and restoration of their unfortunate charges can not be put forth. Repression takes the place of encouragement and the sympathy of their superiors, and they fold themselves in a mantle of routineism.

If Dr. Kretzschmar has set before himself the task of defending the otherwise defenseless county lunatic, he has not entered public life in vain; therefore he should have the cordial support of his medical brethren.

MOUNTAIN DISEASE.

In the *Internationale klinische Rundschau* Dr. Liebig publishes an article in which he describes a disease peculiar to great altitudes. At an ascension of about 1,500 metres the first physiological change noticed was an acceleration of the respirations and dyspnœa; at a little greater elevation an unaccountable weakness of the legs came on, compelling the person to sit down. At a still greater height, from 3,000 to 5,000 metres, the veins would become full and the face livid, with headache, blindness, nausea, vomiting, bleeding from the various mucous membranes, and stupor. These symptoms seemed to have caused no organic changes, and usually disappeared in from ten to twelve days, only a slight dyspnœa, showing itself on exertion, and depression of spirits remaining. Various theories have been advanced from time to time as to the cause of these phenomena. The author accentuated the point that many of the cases of so-called mountain disease were also found in the low-lying lands of the heights, as well as at the great elevations with rarefied air; also that the disease was not constant, and that only under certain circumstances could the attack come on. If the rise was gradual and rest was taken at frequent intervals, the lungs could expand and the breathing adapt itself to the diminished air-pressure; but if the strength gave out, then would follow a paroxysm. Again, if there was any lack of elasticity or constriction of the lung motor-power, the condition would be unfavorable for adaptation to the change in atmospheric pressure. The author was convinced, from extended experimental research and personal observation, that the disease was not due alone to the decrease of carbonic-acid gas in the air, nor to the diminished air-pressure, but to a peculiarity of lung elasticity which in some cases allowed the system to become surcharged with venous blood.

HYSTEROPEXY.

Dr. Pozzi proposes, in the *Annales de gynécologie*, a modification of hysterorrhaphy, which he denominates "hysteropexy," or binding of the uterus. The steps of the operation, after the uterus has been exposed and brought into close proximity to the abdominal wound, are the employment of a continuous silk suture passed from the left side of the patient to the right through the posterior sheath of the rectus muscle, the peritonæum, and the uterus in the middle line; thence the suture is passed outward through the peritonæum and the sheath of the rectus on the right side of the wound. The suture is thus passed three times through the uterus, transfixing the organ a short distance below the serous covering. The suture is tied and cut short. The more superficial layers of the abdominal wound are then brought together and closed by a separate suturing. Pozzi describes two cases of retroflexion of the uterus, with more or less of inflammatory adhesions, treated by this operation. The first case was entirely successful, and it was one in which Alexander's operation had been done without affording relief. The second case was less fortunate, having been attended by suppurative inflammation at the lower part of the wound, which was probably due to an imperfect boiling of the silk suture; but the uterus in both these cases remained firmly fixed to the anterior abdominal wall. Pozzi prefers the continuous to the interrupted suture, passed outside and through the integuments, as affording a firmer and more certain kind of adhesion.

HOW TO KEEP THE PAQUELIN CAUTERY IN GOOD ORDER.

According to *Le Praticien*, quoted in *L'Union médicale*, Paquelin's cautery would never be found out of order if the following instructions, given by M. Colin, were followed strictly: The benzin employed should be of from 700° to 720°, using the petroleum densimeter, at a temperature of 59° F., that is to say, it should weigh from 700 to 720 grammes to the litre. At most, it should not occupy more than a third of the capacity of the reservoir. In case of need, the hand-bulb may be replaced by a pair of bellows. During the whole operation, the temperature of the benzin should be kept at from 59° to 68° F., to accomplish which it is only necessary to hold the reservoir in the hand or carry it in one's pocket. Too high a temperature hinders the incandescence of the cautery. The platinum point should be placed in the lateral portion of the flame, at the level of the center. Use pure alcohol for the lamp. Avoid heating the platinum to the luminous point. If the cautery cools off, work the bulb vigorously, and if necessary place the point in the flame again. When the operation is finished, before allowing the cautery to become extinguished, bring it to a bright red by a few rapid insufflations, and then, while it is fully incandescent, detach the rubber tube from the handle suddenly. Let the cautery cool in the open air. Cleanse it with a moistened rag. If the instrument is not used very often, it is well to heat the various points from time to time.

ETHEREAL PREPARATIONS AS TOPICAL REMEDIES.

Sir James Sawyer, of the Queen's Hospital, Birmingham, writes in the *Lancet* in high commendation of ethereal tinctures as topical applications, chiefly on account of the osmotic capacity of ether and its solvent action on the fatty constituents of the sebaceous secretion of the skin, whereby the most intimate application of remedies to the epidermis is facilitated. He has made special use of ethereal preparations of belladonna, iodine, menthol, and capsicum.

THE CALIFORNIA VINTAGE COMPANY.

We have several times spoken in commendation of the wines and brandies furnished by the California Vintage Company. The company has devoted great care to the task of providing products of the best character for medical purposes, and has thus established a reputation in the medical profession that certain unscrupulous persons seem disposed to profit by, especially in the matter of tokay wine. The company announces that the trade name of its "Royal Tokay" has been copied, and that inferior wines sold under that name have, as might have been expected, proved disappointing to physicians who prescribed the genuine article. On that account, the company asks physicians to prescribe "Calvico Tokay" when they mean the wine heretofore known as "Royal Tokay."

A HOSPITAL CENSURED.

A coroner's jury in Kings County has passed a vote of censure against the Long Island College Hospital, in consequence of the death of a patient by suicide. The case was one of alcoholic delirium. The patient was confined in a private room, manacled by both hands and feet, and fastened to the bed with a rope, and yet she managed to slip away from her fastenings and cast herself down from the window, which was not barred. Under the terms of the jury's verdict "the authorities of the hospital are responsible for being negligent in not providing the proper care to prevent the said patient from taking her own life." Alcoholic delirium cases are not "interesting" ones at any hospital, as they entail extraordinary vigilance, care, and expense, but that is no reason why that class of cases should be overlooked or refused admittance, as is the manner of some who are in the receipt of municipal funds; while it may be a reason against an attempt to treat the sufferer at his home or in any private house. They are peculiarly hospital cases.

MALARIAL GERMS.

Dr. F. Neelsen, in the *Centralblatt für klinische Medicin*, quoting from the writings of Camillo Golgi, in the *Archivio per le scienze*, says that two distinct types of bacilli have been demonstrated as causing the tertian and quartan malarial fevers. Biologically, the tertian germ completes its development in two days and the quartan in three, and the amœboid movements of the tertian type are much more marked than those of the quartan. Clinically, the destruction of the hæmoglobin in the red corpuscles is much more rapid in the tertian than in the quartan. Morphologically, the difference is to be seen in the first stages of development; the amœba of the tertian has a more delicate mass of protoplasm and a sharper contour than those of the quartan, while the pigment granule and bacillus of the quartan are larger and coarser. Finally, segmentation takes place in a less regular manner in the tertian than in the quartan organism.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 21, 1890:

DISEASES.	Week ending Oct. 14.		Week ending Oct. 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever...............	45	16	44	9
Scarlet fever...............	25	5	25	1
Cerebro-spinal meningitis.....	0	0	0	0
Measles.................	79	6	52	5
Diphtheria.................	46	15	57	17
Small-pox.................	0	0	1	0
Varicella.................	0	0	2	0

The District Medical Society of Central Illinois will hold its fifteenth semi-annual meeting in Decatur on Tuesday, the 28th inst., under the presidency of Dr. W. P. Buck, of Moawequa. The programme gives notice of the following reports and essays: Surgery, by Dr. G. N. Kreider, of Springfield; Some Notes on Hodgen's Splint, by Dr. W. J. Chenoweth, of Decatur; The Essential Oils in Surgery, by Dr. C. E. Black, of Jacksonville; Some Surgical Cases, by Dr. W. M. Harsha, of Chicago; Premature Expulsion of the Ovum, by Dr. L. P. Walbridge, of Decatur; Puerperal Eclampsia, by Dr. F. B. Haller, of Vandalia; Cervical Laceration, by Dr. L. A. Malone, of Jacksonville; Neurasthenia Fœminea, by Dr. Amos Sawyer, of Hillsboro; and Alcoholism and Insanity, by Dr. F. P. Norbury, of Jacksonville.

The Brooklyn Surgical Society.—At the meeting held on Thursday evening, the 16th inst., Dr. L. S. Pilcher read a paper on The Question of the Propriety of Suturing Recent Fracture of the Patella.

The United States Marine-Hospital Service.—A board of examiners will sit for the examination of candidates for admission into the service, at the Marine Hospital at Stapleton, Staten Island, N. Y., beginning on Monday, the 27th inst.

The New York Polyclinic.—Dr. Dillon Brown has been appointed instructor in intubation of the larynx on the cadaver.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 12 to October 18, 1890:*

By direction of the Acting Secretary of War, the retirement from active service on October 12, 1890, by operation of law, of Cherbonnier, Andrew V., Captain and Medical Storekeeper, under the provisions of the act of Congress approved June 30, 1882, is announced. Par. 11, S. O. 240, A. G. O., Washington, D. C., October 13, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 18, 1890:*

Bright, George A., Surgeon. Detached from temporary duty at the Naval Academy and placed on waiting orders.

Ayres, J. G., Surgeon. Detached from temporary duty at the Naval Academy and placed on waiting orders.

Lumsden, George P., Passed Assistant Surgeon. Detached from the U. S. Steamer Boston and granted three months' leave.

Anzal, E. W., Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the U. S. Steamer Boston.

Smith, Howard, Surgeon. Ordered to appear before the retiring board at Mare Island, Cal.

Society Meetings for the Coming Week:

Monday, *October 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *October 28th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Queens (semi-annual—Garden City) and Rockland (semi-annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *October 29th:* Auburn, N. Y., City Medical Association; Berkshire, Mass. (Pittsfield) and Middlesex, Mass., North District (Lowell) Medical Societies; Gloucester, N. J., County Medical Society (quarterly).

Thursday, *October 30th:* Massachusetts Medical Benevolent Society (annual).

Friday, *October 31st:* New York Clinical Society (private).

Saturday, *November 1st:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, held in Louisville, October 8, 9, and 10, 1890.

The President, Dr. J. M. Mathews, of Louisville, in the Chair.

Infectious Dyspepsia and its Rational Treatment by the Antiseptic Method was the title of a paper by Dr. Frank Woodbury, of Philadelphia, who limited his consideration of the subject to gastric dyspepsia. He considered dyspepsia entitled to recognition as a distinct disease. It was characterized clinically by manifestations of nervous disorder; so that Cullen had not been very far wrong in considering it as a neurosis, under the class of *Adynamiæ*. Its most marked symptoms were produced, the author believed, by the absorption of products of parasitic micro-organisms. Of late years bacteriology had made wonderful advance, and especially in the department of bacterial parasiticism, or infection, and its relation to disease. Abelous, a recent investigator of this subject, had found sixteen species existing normally in his own stomach, of which two were micrococci, thirteen were bacilli, and one was a vibrio. The presence of saprogenic microbes in the stomach, therefore, being constant and not incompatible with health, it became necessary to inquire why fermentation or putrefaction of the food did not occur after every meal. In other words, how was practical antisepsis obtained by natural processes? Three things were to be considered in this connection: (1) the food, (2) the digestive fluids, and (3) the physical conditions attending the act of digestion. Laborious, painful, and imperfect digestion occurring habitually, when not symptomatic of other disease, constituted dyspepsia; and when it was accompanied by fermentation of the contents of the stomach and general toxic symptoms, the result of microbian development, it might properly be called infectious dyspepsia. The disorder was sufficiently prevalent, and gave rise to enough discomfort and actual suffering in its victims, not only to deserve our serious consideration, but also to enlist our best therapeutic skill in their behalf. The excessive growth of micro-organisms during digestion was favored by slow movements of the stomach and by defective quantity or quality of the gastric juice. Acid dyspepsia, or sour stomach, might be due in rare cases to excessive secretion of hydrochloric acid, but was generally caused by lactic, acetic, or butyric fermentation, due to the presence of appropriate forms of bacteria in the stomach. The object of treatment of infectious dyspepsia was to prevent the excessive development of micro-organisms during digestion. This was sought to be accomplished (1) by the use of articles of diet that were not in a fermenting condition or readily fermentable; (2) by adopting such hygienic and tonic measures as would invigorate the bodily powers and especially bring the gastric juice up to its normal standard of quality and quantity, and increase the muscular power of the stomach; and (3) by local antiseptic treatment, including the administration of drugs that retarded fermentation, and especially by irrigation of the stomach with weak disinfectant solutions or simply recently boiled water.

Help and Hindrance to Medical Progress.—Dr. John H. Hollister, of Chicago, read a paper on this subject. He said the possibility of progress was conditioned upon the present imperfection of attainment; results were dependent upon our abilities, upon our methods, and upon the obstacles to be overcome. The profession must command a much higher average of native talent; that talent must receive a much higher grade of culture; and the present methods of research on the part of the profession must be greatly modified and improved.

(*To be continued.*)

NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of October 13, 1890.

Dr. B. F. Curtis in the Chair.

Fractures of the Fibula.—Dr. A. J. McCosh showed a patient, aged forty-six years, who, on May 22, 1889, had been injured while in the act of lifting a horse's foot. The animal had rolled over against the inside of his thigh at the same time that his leg slipped under the horse into a position of extreme adduction, when he felt a pain and "something gave way" on the outer side of his knee, and he found himself unable to get up. On examination, the injury was found to consist of a breaking off of the upper end of the fibula, a fragment about three quarters of an inch in length being drawn upward for an inch by the contracting force of the outer hamstring. There was considerable swelling about the outer side of the joint, but no luxation could be produced. The limb was flexed in a double-inclined plane about thirty degrees and the thigh slightly bent on the pelvis. A strip of adhesive plaster steadied and pulled down the upper fragment. In this position the distance was about half an inch. At the end of three weeks a plaster-of-Paris splint was applied, the leg being semi-flexed. The patient went about on crutches, and at the end of the sixth week the splint was removed. After three months the patient walked without a limp and his injured limb was practically as good as ever.

A second patient was shown, aged thirty-one years, who had several years before sustained, on two occasions, a fracture of the left femur, and in consequence had had partial ankylosis of the knee joint. On August 26th, while descending some stairs, he slipped, and made a violent and sudden effort to recover himself. In doing so he heard and felt something snap on the outer side of his left knee. He fell and was unable to get up. Fracture of the upper end of the fibula was found. The upper fragment consisted of the styloid process, which was drawn slightly upward by the biceps tendon. The leg was flexed on the thigh and a right-angled splint applied, a pad pressing the upper fragment into place. The patient now had bony union.

Dr. C. A. Powers said that of the record of four hundred and forty-eight cases of fracture of the leg in the service of Dr. W. T. Bull, at the Chambers Street and Bellevue Hospitals, there had been only one case of fracture of the fibula immediately below its head. No nerve lesion or paralysis had supervened, and perfect bony union had taken place in about eight weeks, with no limp and no deformity.

Extensive Bullet Wound of the Knee without Injury to the Bones.—The next case was that of a police officer. On the evening of August 21st he accidentally shot himself through the knee joint. The bullet entered the upper part of the joint, which it traversed for nearly its whole extent, lodging just beneath the skin. In its passage through the joint not the slightest damage was done to any of the bony structures. Blood and synovial fluid had oozed from the joint, and a few fragments of clothing were picked out. The joint was irrigated with boro-salicylic solution and a small drainage-tube inserted, the upper part of the wound being packed with iodoform gauze. The knee was kept immobilized until September 23d. On September 26th, thirty-five days from the accident, the patient had begun to walk. It was now seven weeks and he walked without a limp. The leg could be flexed to a right angle and was daily improving. There was no doubt that in another month the patient would have a perfect limb.

Two Cases of Hip-joint Disease treated by Immobilization.—Dr. A. M. Phelps showed two patients, one cured and the other under treatment by means of his immobilization splints. [A report of these cases to be published.]

His argument was that, if a case were treated in time and upon proper surgical principles, no deformity ought to result. It had been urged again and again, as an argument against fixation of the hip joint, that ankylosis was sure, or very likely, to ensue. The patient, a little girl, whom he now presented cured, had been put under treatment and her limb had been immobilized for sixteen months. It would be seen that she could now walk well, there was scarcely any shortening, and the joint was freely movable.

The Chairman said that the cases presented were speaking witnesses of the freedom from danger and excellent results that were attainable by the method.

Trendelenburg's Operating Chair.—Dr. Willy Meyer described and showed a new operating table that he had brought from abroad. The table was designed by Professor Trendelenburg, chief of the surgical clinic at the University of Bonn, Germany, for the purpose of facilitating operations in the posture bearing his name. The only difficulty that had been connected with this position, which became especially evident in operations occurring in private practice, was the providing of a proper and steady support for the patient without the help of an additional nurse. Trendelenburg's new table overcame this insufficiency in a simple and effective manner, and offered besides many new and important advantages. The table consisted of four parts, which could be put together easily and taken apart just as simply. They were small enough to be sent by an express wagon to the patient's home. The four parts were: 1. The pedestal. 2. The seat, which had the shape of a carriage seat. 3. The rest for the back. 4. The rest for the head. Two movable shoulder hollows were attached to the back-rest. If everything was in place, the table could be adapted to Trendelenburg's posture by pressing down the handle at the top of the back-rest. The back-rest and seat were connected by hinges. The table could be lowered to 2¾ feet from the ground and raised to 5 feet by means of a rack and pinion, and also swung around a vertical axis. If one was operating with the help of light from the side, a full daylight view could always be got of the true pelvis and its contents without moving the whole table. There was a trap-door in the seat of the chair, by which means the whole perinæum, rectum, urethra, bladder, or vagina could be brought into view and fully exposed while the patient remained entirely undisturbed in the recumbent posture. The patient was put on the table, as in an ordinary office chair. The feet were secured by straps, and the shoulders caught by the hollows mentioned above. The table was now fastened, the patient upon it, at any height or angle of inclination. The table could also be utilized for office use by using a narrower seat and divergent foot-holders. There was no doubt that Trendelenburg's posture had been made much more useful by his new table, and would consequently be still more generally adopted. The chair could be obtained or ordered from Mr. F. A. Esthbaum, Bonn, Germany. The price without duty was about $90; with substitute seat, $125.

Lessons taught by Three Fatal Abdominal Operations.—Dr. J. B. Roberts, of Philadelphia, read a paper with this title. The operations were: 1. An attempt at nephrectomy, by the abdominal route, for tubercular and calculous nephritis. The autopsy in this case had shown quite clearly that lumbar nephrotomy would have led to a definite diagnosis, and possibly, perhaps probably, would have been followed by cure after a prolonged course of treatment. 2. Cholecystotomy. Gall-stones were not found, and the cause of jaundice was not discovered. The post-mortem examination revealed a fœtid abscess between the gall-bladder and adherent coils of intestine, and indicated that the jaundice was due to pressure on the common bile duct by this abscess and other inflammatory products. 3. An operation for radical cure of a large umbilical hernia, in which death had followed. The clinical history of the first case was as follows: The patient, a woman aged forty-two years, had previously suffered with what was said to have been pneumonia, from which time she had never been in good health. About nine months previous to the writer's seeing her she had been seized suddenly with severe pain in the right side, which extended down into the right leg. This was followed by an illness which confined her to bed for fourteen weeks. During this time the urine was scanty and cloudy, and produced a burning sensation when being voided. Her health had progressively failed, and she had lost nearly fifty pounds in weight in the two years following the pneumonic trouble. Before she came under the writer's notice a tumor was discovered in the right hypochondriac region. Examination had shown the patient to be extremely emaciated, very feeble, and with a hard, globular mass, of about the size of a fœtal head at term, situated in the right hypochondrium. Counter-pressure on the loin caused the tumor to project much more prominently against the anterior wall. The urine contained large quantities of pus. The diagnosis was of a growth of renal origin, which, in all probability, would be found to be a disorganized and suppurating kidney, perhaps containing calculi. After consultation, an abdominal incision was decided upon, with the expectation of removing the tumor radically. An incision was made over the convexity of the tumor corresponding with the right semilunar line. The omentum, which was spread over and adherent to the mass, was torn through with the fingers. The presenting part of the growth consisted of a sac filled with a whitish fluid. This was recognized as a puriform collection in the kidney, and was then removed as well as possible, the contents being too thick to flow readily. About half of the tumor was separated from its surroundings, but it soon became apparent that it would be impossible to enucleate it completely, because of the firm adhesions to the viscera and the posterior abdominal wall. It was determined that the only safe course was to abandon the operation of nephrectomy and to stitch the peritonæum, at the edges of the abdominal incision, to the surface of the disorganized kidney. A portion of the tumor would thus be exposed, so that after its adhesion to the parietal peritonæum it would be possible to split open the diseased kidney and scrape away the disorganized tissue. The shock of such serious and prolonged manipulations, added to the patient's previously bad condition, had caused death within twenty-four hours. Removal of the kidney even after death was exceedingly difficult, because of its strong adhesion to the liver, diaphragm, intestines, and spinal column. When the specimen was cut open, a multitude of sacs was disclosed, with diffluent or cheesy pus for their contents. Within the kidney, calculous sand was discovered, and in one place a calculus as large as the tip of the finger was found. A large lumbar incision would undoubtedly have been better, for then the disorganized kidney could have been laid open and the pus and calculi removed by curetting, without involving the peritoneal cavity.

The second case was that of a woman, aged forty-two, who had suffered for sixteen years with periodical pains in the right hypochondrium. Nine months before coming under the notice of the writer her condition increased in severity, and a lump was noticed in the right side of the abdomen. The case was looked upon as being one of biliary calculi which could be treated by medicinal remedies. After a month's treatment an operation was decided upon, and the abdomen was opened over the gall-bladder, which was found greatly distended with liquid bile and bound by adhesions to the intestines. After evacuation of the bile, an incision was made into the gall-bladder and search made for calculi, but none could be found. The patient was in a fair condition after the operation, but died within twenty-four hours. The autopsy revealed a pus-pocket between the bladder and the transverse colon. The delay in attempting exploration was unfortunate. It was also possible that death might have been avoided even at the time of operation if force had been used and the gall-bladder separated from the adherent colon; this would, at any rate, have disclosed the pus, which was the chief cause of the serious symptoms.

The third fatal abdominal section of the series was in a woman, aged forty-six, who was subjected to an operation for the radical cure of an enormous umbilical hernia which, it was stated, had existed for four years. An incision only large enough to admit the finger into the sac was first made, with the hope that reduction of the mass might be accomplished by tearing up the adhesions and enlarging the umbilical opening. Adhesions, however, were so generally present that this was impossible. A large incision, therefore, was made so as to uncover the protruding intestine thoroughly. During the making of the incision some fœtid fluid escaped. The intestines were congested. Thick masses of inflammatory lymph were stripped from the sac wall and a good deal of congested and inflamed omentum cut away. In tearing through the adhesions between the various coils of bowel the two outer intestinal coats were torn at one place for about an inch, leaving nothing but mucous membrane remaining. The rent was at once sutured with catgut. The adhesions at the lower border of the ring were finally separated, but at the upper margin of the opening they were too firm to permit of separation of the protruding omentum from the abdominal wall. The ring was enlarged by incision, and reduction of the intestines accomplished, although a part of the colon and the stumps of the excised portions of omentum were left adherent to the upper border of the ring. A drain was not put into the peritoneal sac, but one was left in the umbilical opening. The patient's temperature after being put to bed was 101·2°; pulse, 104. The next day the abdomen became somewhat tympanitic, and the bowels were thoroughly moved with saline purgatives. Her condition becoming serious about forty hours after the operation, the abdomen was opened and thoroughly irrigated and drainage-tubes were inserted. Death had occurred in a few hours. It was evident from the autopsy that death had resulted from acute septic peritonitis, due to the introduction into the abdominal cavity of coils of intestine in a state of septic inflammation.

Dr. J. D. Bryant thought the reader of the paper had set an excellent example in recording his results so frankly. If all the unfortunate issues were so told, more would be learned than from the flowery recitation of successes. As to the kidney case, he thought it was a pretty well established fact that the removal of this organ through the loin, if permissible at all, was better than through the anterior abdominal wall. Some believed that the surgical handling of the abdominal cavity, under proper precautions, offered no more danger than manipulation of other regions of the body. The speaker did not believe it proper to open this cavity when the object could be effected without doing so. The rate of mortality after removal of the kidney was about ten per cent. in favor of the lumbar incision. As to drainage of the abdominal cavity for the various requirements met with in the surgery of the region, he made it a rule to employ drainage when there was evidence to warrant the belief that inflammatory action would ensue at the site of the operation or in the tissues contiguous to it. If there had been any exposure by the stripping off of the serous coat which could not be covered by drawing them together, he employed drainage by means of the tube or an iodoform tampon. The question of introducing into the abdominal cavity quantities of water or other fluid for the purposes of its better toilet had been a point of serious consideration. He should hesitate very much, where there was a local disease, or where an operation had been performed for disease which had not extended beyond the reach of the surgeon, to wash out the abdominal cavity, fearing that other parts might become infected. He should prefer to rely on local washing or the careful use of the sponge, followed by the introduction of a drainage-tube. As to the hernia case, he did not see how any other termination could have been expected, and thought that all had been done surgically that was possible.

Dr. G. M. Edebohls thought that Dr. Roberts had been quiet justified in opening the abdominal cavity. This in itself was not an improper measure for purposes of exploration. In case the growth sought for could not be removed by the abdominal route, or some other organ was found to be diseased, as in the case of a kidney, the cavity might be closed and the operation finished by means of a lumbar incision.

Dr. W. W. Van Arsdale referred to a method which was an exploratory incision, but one in which the abdominal cavity was not opened. All the tissues were divided down to the peritonæum, which was not disturbed. Most of the tumors usually sought for by opening the cavity could be diagnosticated readily without running this risk.

Dr. T. H. Manley thought the fatal results that so often followed these abdominal sections, from what was presumably septic invasion, could hardly be accounted for always in this way. In many of the cases there was scarcely sufficient interval for the development of general septic peritonitis. He thought that the element of shock was very often a potent factor in the fatal issue.

Reports on the Progress of Medicine.

DISEASES OF CHILDREN.

By FLOYD M. CRANDALL, M. D.

Points in the Pathology of the Paralyses occurring during the First Two Years of Life.—Henry Ashby (*British Medical Journal*, Feb. 3, 1890) divides the paralyses of infants into six classes:

1. Intra-uterine lesions (meningo-encephalitis). Grave lesions may occur in the fœtus, and it may continue to live and be born at term. The results of meningeal inflammation appear in the brains of idiotic children, which show atrophy, sclerosis, or chronic hydrocephalus.

2. Meningeal hæmorrhage. This occurs under a variety of circumtances during early life, but the invariable immediate cause is asphyxia, the delicate vessels being readily ruptured when distended with venous blood. The most common cause of asphyxia and resulting hæmorrhage is prolonged and difficult labor. It may also occur during paroxysms of whooping-cough, violent attacks of vomiting, or convulsions. The bleeding is usually bilateral, and most commonly involves the parietal region. The clot separates the pia mater from the surface of the convolutions, tearing the vessels which pass from the pia to the gray matter. The result is interference with the nutrition of the nerve-centers and more or less degeneration. In a majority of cases there are no symptoms of a surface lesion at first. An extensive hæmorrhage may be present without paresis or even convulsions. This is, no doubt, due to the undeveloped state of the cortical centers at birth. Symptoms appear as the child develops.

3. Syphilitic arteritis and softening. Disease of the brain in connection with hereditary syphilis is not common in young infants. When it does occur, it usually takes the form of an arteritis.

4. Acute cerebral paralysis. Much controversy has taken place with regard to the cause of this condition. It usually takes the form of hemiplegia, and may be due to tubercular meningitis, meningeal hæmorrhage, or embolism of the middle cerebral artery. The paralysis appears suddenly, convulsions or an acute febrile disease being present at the onset. The cause of the primary illness is often uncertain, and the relation of the convulsions to the paralysis, in most instances, can not be determined. This is also true of the hyperpyrexia which is frequently present. It has been suggested by Strümpell that a polio-encephalitis takes place analogous to anterior poliomyelitis. This is suggestive, but is as yet only a theory.

5. Acute spinal paralysis (atrophic paralysis, anterior poliomyelitis). Here the lesions are found chiefly in the anterior horns of the spinal cord, and are regarded by the author as inflammatory in character.

6. Peripheral paralyses. These play an unimportant part in the paralyses of early life. The group includes diphtheritic paralysis and the various paralyses resulting from injury to the nerves.

The Spinal Cord in Infantile Paralysis.—Angel Money (*Provincial Medical Journal*, Jan. 1, 1890) reports a case of great interest. The patient was a girl two years of age. Two months before, paralysis had been noticed following a brief illness marked by fever and vomiting, but no convulsions. This paralysis involved both lower extremities, which were wasted, flabby, and relaxed, but not rigid. The knee-jerk was lost on both sides, the abdominal and gluteal reflexes were absent, but the epigastric was easily obtained. The wasting was symmetrical. None of the paralyzed muscles acted to the strongest faradaic current, but all responded to the constant current of thirty cells. Six weeks after admission to the hospital the child died of pneumonia.

At the autopsy the diagnosis of pneumonia was confirmed. The parenchymatous organs were in a state of cloudy swelling. The brain and eyes were normal.

The spinal cord, on removal from its canal, presented no signs of disease, but, on making transverse sections, certain alterations were discovered in the lumbar region. In the middle of the lumbar enlargement a red area was seen to occupy each anterior cornu; that on the right side being the more extensive. Each anterior cornu had at its periphera a translucent border, which Dr. Turner has described. These changes existed in varying degrees throughout the lumbar enlargement. A microscopical section from the part where the disease was most marked showed (1) great distention and thrombosis of vessels, especially in the anterior cornu; (2) infiltration of the cornua, with abundant leucocytes; (3) absence of large multipolar or other nerve cells. The disease was not confined to the anterior horns, but spread in every direction, though the focus of mischief was certainly in the anterior horn. The lesion was most marked farthest from the center of circulation. The author believes that the morbid signs were those of acute inflammation.

As to ætiology, it is probable that a study of the circulation of the spinal cord may furnish an explanation. There is evidence for the belief that the gray matter is not as well supplied with blood as the white. In proof of this are the researches of Young and Ross, Adamkiewicz, and Moxon. The spinal cord is not well supplied with pabulum; the lower part is not as well supplied as the upper, while the gray matter and nerve nuclei have a most precarious supply. By invoking Cohnheim's theory of inflammation, the matter is easily explained. Upon any damage to the walls of the blood-vessels, the phenomena of inflammation follow. Such injury may result from an abnormal condition of the blood or blood-pressure, and a direct result of this is damage to the vital protoplasm forming the vascular walls. If damage to the walls be sufficient, actual hæmorrhages occur, as found by Clifford Allbutt. The essential feature of this view is the unimportant part played by the nerve-cells in originating the disease. They are simply damaged by disorder of the blood-vessels, and are the victims of the vascular disease.

The Nature and Treatment of Rickets.—Dr. Kassowitz (*Wiener med. Wochenschrift*, Nos. 28 to 38, 1889) contends strongly against the opinion that rickets is due to a diminution of lime salts in the food or to their insufficient absorption due to weakened digestion. He believes the essential cause to be an inflammatory condition of the bony tissues and not a lack of calcareous material. After Wagner had demonstrated the specific action of phosphorus upon the bones of animals during the period of growth, the author conceived the idea of availing himself of the drug in the treatment of rickets. The favorable results first published in 1884 have since been confirmed by numerous observers. He usually administers the phosphorus in cod-liver oil, giving a half milligramme a day. This oil of phosphorus is, as a rule, well tolerated and may be continued during the warm season. When not well taken, the phosphorus may be exhibited in an emulsion of lipanine, mucilage, and syrup.

A Case of Myxœdematous Idiocy.—Bourneville (*Arch. de neurol.*, March, 1890) reports another well-marked case of this disease. Nothing unusual was observed until the child was three years of age, when development ceased and he began to grow fat. He first came under observation at the age of twenty-five. He was three feet in height; the anterior fontanelle was still open; the eyes were scarcely visible, due to swelling of the lids; the lips were thick and prominent; the cheeks fat and puffy. The thyreoid was absent; the neck was short and thick, and on each side there was a lipomatous mass, while similar masses existed on the sides of the trunk and in the axillæ. The abdomen was prominent and there was an umbilical hernia. The hands and feet were short and fat; the skin was waxy-white, and in places translucent. The speech was slow, the voice harsh, the vocabulary limited, and intelligence poorly developed.

The Pathology and Treatment of Tubercular Adenitis in Children.—Dr. Wohlgemuth (*Arch. für Kinderh.*, v and vi, 1890) considers this subject in a lengthy paper based on 127 cases. Of these, 46 patients were treated without operation, of which 24 per cent. completely recovered; 36 underwent a slight operation, and 63·9 per cent. recovered; in the remaining 45 the glands were completely removed, and 70·5 per cent. recovered.

The following conclusions are drawn: 1. In tuberculosis, during the first ten years of life the most frequent seat of disease is the glands, those of the neck being most commonly involved. 2. Adults are also attacked in like manner. 3. The prognosis varies according to circumstances more in children than in adults. 4. The greater the diffusion of involvement, the less favorable the prognosis. 5. Removal is less dangerous than has usually been alleged, but radical removal does not positively insure against recurrence, either local or general.

Two Cases of Congenital Malformation of the Heart.—Dr. Ludwig Klepstein (*Arch. für Kinderh.*, v and vi, 1890) discusses abnormities of the heart, and reports two cases. He considers ætiology under two heads: 1. Simple lack of development. 2. Inflammatory action. Endocarditis or myocarditis, occurring during the process of development, checks further growth; occurring after complete development, destruction of existing parts is the usual result. Anomalies of the larger vessels may occur as follows: 1. No division, the vessels forming one large tube. 2. Abnormal relative positions. 3. Unnatural size. 4. Combination of the last two—the most common anomaly.

In the author's first case the heart lay in a peculiar cavity, and was twisted upon itself like a root. The right ventricle was contracted, the walls of the left were much thickened, and there was no septum between the two. The foramen ovale was open. The pulmonary artery was large. It was an utterly useless organ.

In the second case the heart was large, the right ventricle was distended, the foramen ovale open. The left ventricle contained neither mitral nor aortic opening, nor vestige of the aortic valves. The aorta existed, but was small, while the pulmonary artery was abnormally large. The thymus was of unusual size.

Lithotrity in Children.—Southam (*Med. Chronicle*, June, 1890) believes that lithotrity is applicable in most cases in children when the stone does not exceed three quarters of an inch in its greatest diameter. In his experience, larger stones than this are rare, and, in a large proportion of cases, are capable of being crushed. The larger the stone and the younger the patient, the greater is the reason for performing suprapubic lithotomy in preference to the lateral operation.

Disease of the Heart as it occurs in children possesses many peculiar features, which are discussed by Dr. Mitchell Bruce (*Brit. Med. Jour.*, April 26, 1890) in an article of unusual interest. The various periods of this eventful disease may be considered under three heads:

1. Acute inflammation. Among the numerous causes, rheumatism is by far the most common, but is frequently "latent" and very difficult of detection. Far behind rheumatism are chorea, scarlet fever, diphtheria, measles, and tonsillitis. Even pericarditis is frequently of rheumatic origin, and the sooner this is recognized the better it will be for all concerned. Four tests may be employed to determine whether pericarditis be rheumatic or not: (1) The presence of an endocardial murmur; (2) the effect of antirrheumatic treatment; (3) the discovery, after minute examination, of tenderness of the joints; (4) the family history.

The symptoms of cardiac disease in children are mild and often very obscure; the physical signs are relatively distinct, but are marked by numerous peculiarities. The heart lies higher, the apex-beat being usually in the fourth space and more to the left than in the adult. The impulse, as a whole, is often widely visible and palpable. The sounds have a puerile character and are frequently divided, both periods of silence being marked. Reduplication is more frequent than in the adult. Prominence of the præcordia is especially striking, friction fremitus is distinct, and friction sounds are relatively loud. The area in the back over which systolic murmurs are conducted is frequently very extensive.

The immediate prognosis should be guarded. It is true that uncomplicated inflammation of the heart rarely proves directly fatal in young subjects, but its complications are frequently the cause of death. Rheumatic pleuro-pneumonia, associated with endocarditis and pericarditis, is a condition full of peril to life. The ultimate result depends largely upon the hygienic surroundings and social condition of the patient. It is, as a rule, better in the child than in the adult. It is unwise to give a too unfavorable prognosis, for in a certain number of cases the signs of valvular disease ultimately disappear.

Much may be done to prevent endocardial inflammation by immediately and vigorously combating every rheumatic process and insuring proper care. Salicine and quinine sometimes succeed where salicylates fail. Entire freedom from excitement, absolute rest in bed, and proper nursing must be continued week after week. Food should be given in small quantities and at short intervals, and must be rigidly fluid. The disease runs an irregular course, sometimes continuing for weeks. Such cases must be managed rather than "treated." Lack of firmness, patience, and consistency in management must too often account for the severity of some cases of chronic valvular disease.

2. The establishment and maintenance of compensation. There can be no doubt that compensation occurs with exceptional completeness and rapidity in the child. The first cause of interference with compensation is impoverished blood-supply, which may result from anæmia, starvation, dyspepsia, or disturbed action of the liver. The second set of causes rises in connection with muscular exertion. A weakened valve is sometimes strained by a child at play, but this is rare compared with the damage which often occurs to the heart of hard-working men. Nervous influences, which are so fruitful of evil in the adult, are much less active in the child. Yet a child suffering from cardiac disease should be guarded against nervous shocks, worry, and anxiety. The chief source of worry in most cases is the lessons and school. We must be on the outlook for symptoms of mental strain—headaches, night-talking, sleep-walking, or irritability of temper. At the same time we must see that muscular exercise is neither abused nor neglected. We should speak definitely as to games. Quiet cricket

may be allowed, but match games, with their excitement, and violent games, like foot-ball, must be totally forbidden. Cycling would seem to be a safe form of exercise, but actual experience proves it to be dangerous, from a tendency to over-ride.

The subject of chronic valvular disease must be specially protected from rheumatism. The most trifling symptom of its approach must not be disregarded. The most trying period is from the tenth year to puberty. The heart is then especially susceptible, and in most cases requires constant attention. Periodical examinations should be made, however free from symptoms the child may be. As to medicinal treatment, the routine employment of such drugs as digitalis and its allies is frequently unnecessary and often positively harmful.

3. Heart failure. Symptoms appear only when compensation begins to fail. In several important respects they are peculiar to the child. Pain is less prominent than in the adult, but dyspnœa is a constant and striking feature. Cardiac dropsy and albuminuria are infrequent. Epistaxis is not uncommon. Failure of compensation never arises without a cause. No attack of palpitation or dyspnœa should be allowed to pass without search for the cause, for upon that the prognosis will largely depend. If it be injudicious treatment, nervous strain, or muscular exertion, a period of rest and judicious treatment will restore the heart. The danger is much greater if rheumatism or other intercurrent disease is at work. On the whole, the prognosis of cardiac failure in the child is better than in the adult. When the more unusual symptoms, as dropsy and albuminuria, occur, the prognosis is especially bad, being worse than when those symptoms appear in the adult. Dyspnœa, palpitation, and failure of the pulse demand instant and active attention. Of the various new remedies and cardiac stimulants there are a number of much value, but, on the whole, digitalis, if rationally employed, is still the best. As prompt stimulants, ether, ammonia, and alcohol are familiar to all, but strychnine used hypodermically has in some instances an effect little short of marvelous in restoring the action of the ventricles. A one-per-cent. solution of the hydrochloride should be employed.

Mitral Stenosis in Children.—Dr. Sansom, in the *Lancet* of Dec. 28, 1889, reports forty cases of mitral stenosis with nineteen autopsies, all in children under twelve years of age. In the less marked cases a ring of granulations was found on the mitral aperture on its auricular aspect. They are in some cases friable and fibrin-covered, in others fibrous and firmly fixed. The subjacent structures were more or less thickened. In the more pronounced forms the mitral curtains were fused to form a funnel. The button-hole opening, so common in adults, occurred in children in the proportion of but 1 to 8 as compared with the funnel-shaped opening. The left ventricle was usually of normal size; the right chambers were almost invariably dilated. Mitral stenosis was in no case congenital. It was extremely rare under five years, and was invariably the result of endocarditis. As to ætiology, rheumatism was the most common factor. In the more severe forms of rheumatism mitral insufficiency was far more common than stenosis, while in the milder forms the proportion of the latter greatly increased. The author believes that stenosis is the result of a limited and slow endocarditis, while insufficiency is due to retraction of the valves, the result of more intense inflammation.

Strophanthus in Cardiac Disease in Children. — Dr. Moncorvo (*L'Union médicale*, Jan. 9, 1890) has employed strophanthus extensively in children from fifteen months to fifteen years. He has seen no intolerance manifested to the drug even in the youngest cases. It strengthens the muscular force of the heart and frequently regulates the rhythm without prejudice to arterial tension. He reports eight cases of mitral disease with irregular rhythm and the symptoms common to cardiac disease in young children: palpitation, dyspnœa, insomnia, and precordial oppression. The symptoms were invariably relieved, sometimes immediately, and ultimately disappeared more or less completely. In some cases of an asthmatic type the irregular heart's action was improved without relief to the dyspnœa. In other cases the dyspnœa was made to disappear. In three cases of nephritis with lesions of the heart, edema disappeared under the use of the drug, and the action of the heart was improved. In broncho-pneumonia and other pulmonary diseases complicated by dyspnœa and weakness of the heart, strophanthus rendered excellent service.

In most instances the good effects persisted after the administration was suspended. The temperature was not reduced nor was any effect noted on the nervous system.

Lipanine as a Substitute for Cod-liver Oil.—Galatti (*Arch. f. Kinderhk.*, xi, Fas. 1) reports twenty-seven cases of tuberculosis and rickets treated by this preparation with very favorable results. It was well tolerated and taken without difficulty. Although the appetite improved in all cases and there was a surprising increase in weight, the progress of the disease in tuberculous cases was unchecked. The dose is a dessertspoonful, pure or combined with syrup.

[Lipanine is an artificial compound of oil and a fatty acid. Mering uses a mixture of 100 parts of oleic acid with 6 of olive-oil.]

The Causes of Laryngismus in Infants.—Mantle (*Brit. Med. Jour.*, Feb. 8, 1890) describes a form of laryngismus characterized less by stridulous breathing than by a distinct catch in the breath, bringing respiration temporarily to a standstill. The infant is observed to awake suddenly from sleep and struggle for breath. He seems to be suffocating, but eventually recovers the breath. Sometimes there is a crowing inspiration, but frequently disturbance of the natural rhythm of respiration is the only symptom noticed. At first spasm is confined to the laryngeal muscles; but if the disease continues, other muscles are at length involved. Carpo-pedal contractions soon appear, and these may be succeeded by general eclampsia. In the words of Dr. Cheadle, "Laryngismus, tetany, and general convulsions are the positive, comparative, and superlative of the convulsive state in children."

Among the causes of this disorder, rickets is by far the most common. The best explanation for this would seem to be that the weakened and deformed chest wall of the rickety child interferes with the proper aeration of the blood. Increased venosity without doubt tends to irritation of the respiratory centers. Another cause described by Goodhart is excessive recurving of the epiglottis in its vertical axis, as if it had been bent in half down the middle, and that thus the ary-epiglottic folds are brought into apposition, and a mere chink is left between them. In cases of this character the symptoms gradually disappear, but are little relieved by treatment. Another cause is found in enlarged bronchial glands, but this accounts for but few cases. Enlargement of the thymus gland accounts for a still smaller number.

There is still another cause which has not before been recognized, except indirectly by Ringer. This is elongation of the uvula with thickening and congestion of the palatal folds. The history of an extremely interesting case is given in detail. A child, eight weeks old, suffered successively from laryngismus, carpo-pedal contractions, and general convulsions. Removal of the uvula, which was much elongated and congested, resulted at once in complete and permanent cure.

Congenital Laryngeal Stridor.—Dr. Suckling (*Lancet*, March 15, 1890) reports the case of an infant, one week old, suffering from laryngeal stridor. It had existed since birth and was persistent, though worse at times, especially during sleep. There was no evidence of syphilis. The stridor was attributed to some congenital abnormity in the larynx, possibly a recurved epiglottis. Such cases are unaffected by treatment, and the stridor gradually disappears.

Diphtheria and Croup.—It is believed quite generally in Germany that there is a simple idiopathic or inflammatory croup, less frequent than diphtheritic croup, but often so grave as to require tracheotomy. Goldschmidt (*Ctrlbl. f. klin. Med.*, No. 48, 1889) is inclined to doubt the existence of simple idiopathic croup. Though such a disease may occur, it is in most cases a manifestation of diphtheria. This is proved by the contagious character it often presents, by subsequent paralysis, and by the small membranous spots so frequently found upon autopsy. In these cases the results of tracheotomy are especially good, as they are rarely complicated.

Recent Investigations in Diphtheria.—The *Canada Medical Record* (May, 1890) reports the investigations of several government inspectors into the origin of certain outbreaks of diphtheria. The most interesting points are presented in parts of the report which deal with the influence of factories in disseminating the disease and the possibility of conveyance of the infection by clothing. Evidence is undoubted that factory women employed during the week in a town where diphtheria was prevailing communicated the disease extensively in villages where they spent Sunday. Instances are given of the families of clergymen and doctors in rural parts owing their attacks to the head of the family bringing the infection home in the clothes. It was also carried by coats and straw plaits sent out from infected houses. The potent influence of schools in disseminating and furthering the disease is proved beyond a doubt.

A Case of Chorea of unusual severity is reported by Dr. Henry Ashby in the *Medical Chronicle* for May, 1890. The patient was a girl, nine years of age. Choreic movements began early in June. On the 19th the power of speech was lost, a condition which lasted eighty-one days. At about the same time control over the limbs was lost and marked paralysis soon developed. Several joints also became tender and the choreic movements were greatly increased. Early in July a mitral regurgitant murmur developed, the rheumatic pains were constant, and subcutaneous nodules began to appear. At one time at least two hundred were present, being situated on the scalp, borders of the scapula, along the ribs, and in the tendons of the hands and feet. On the 12th of July a friction sound was heard over the heart, followed by a large effusion into the pericardium. This disappeared, to be followed by another attack in August. In August, emaciation and exhaustion were extreme and the paralysis marked. Gradual improvement then began to be noted, which continued till January. Heart failure then set in, accompanied by anæmia, dyspnœa, and œdema, and the patient died February 19th. The case illustrates in a remarkable manner the close association between chorea and the rheumatic state. The loss of speech was doubtless due to a loss of control over the muscles of the tongue and lips.

The Transmission of Aphthous Disease to Infants.—Weissenberg (*Allgem. med. Central-Zeit.*, No. 1, 1890) reports a case of aphthous stomatitis in which the cause could be clearly traced to tainted milk. It is probable that an epidemic of this disease in Berlin was due to diseased animals. It was not simple stomatitis marked by a shallow round ulcer, but true vesicles occurred, which dried and disappeared without leaving a cicatrix. Contagion may result from direct contact, or through the milk of infected animals. The disease was produced even when one part of the infected milk was mixed with eight parts of sound milk. Sibberty isolated a micrococcus from the milk of the diseased cows, but reached no positive conclusion.

Insomnia in Infants.—Dr. Jules Simon (*Revue mens. des mal. de l'enfance*, March, 1890) considers insomnia a symptom of much importance in infants. In many diseases it is a symptom of minor importance and of no special interest. In others it is one of the chief manifestations of the disease. The influence of dentition has been greatly exaggerated. Unless congestion of the gums or surrounding parts is present, it causes but little disturbance of the sleep.

Dyspepsia and indigestion are the most common and universal cause of disturbed sleep, even without the definite symptoms of vomiting, diarrhœa, or marked constipation. A discussion of the treatment would involve a review of the whole subject of dietetics.

Causes referable to the nervous system probably occur next in frequency. All young infants may, even in the first year, present evidences of acute cerebral congestion. Extremes of either cold or heat may produce the same result. A child who has been exposed to a strong wind during its daily airing, or one who has had insufficient protection from the sun, may pass a restless and uncomfortable night. This condition must be distinguished from the insomnia of meningitis, which, in some cases, is for many days the only sign.

In older children, headache due to overtaxing of the brain is not uncommon. Anæmia and rapid growth, in conjunction with over-study, is a fruitful cause of insomnia. In children of rheumatic parents this tendency is especially marked. Among nervous causes in these older children, hysteria, chorea, and epilepsy are the most common. The young hysterical subject is always liable to insomnia, with or without headache. Some attribute all headaches of this period to hysteria, but the author believes that the distinction should be carefully made between such headaches and those due simply to rapid growth and over-study.

The insomnia of epilepsy is peculiar to itself, and is sometimes the only symptom for a considerable period. The child suddenly wakes from profound sleep, sits up, and begins to cry, but soon lies back, as if exhausted, and falls into a deep sleep. These attacks are always accompanied by incontinence of urine. Insomnia complicating chorea is an exceedingly grave symptom.

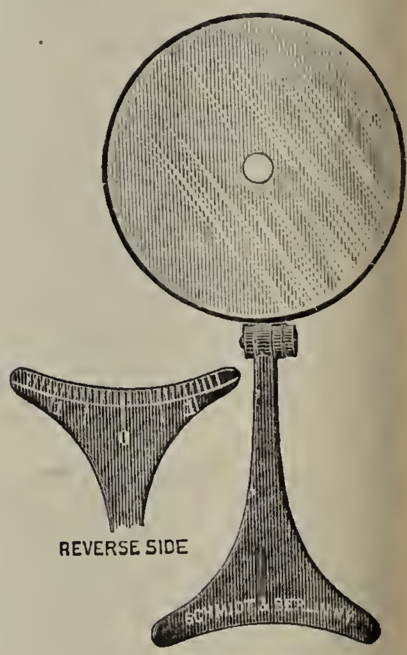
Earache is always accompanied by insomnia, and usually by continuous crying. Hernia is a cause of pain and sleeplessness that is frequently overlooked. Intermittent fever is in some cases marked by wakefulness at a definitely recurring period. Insomnia and headache are prominent and early symptoms of albuminuria. Disturbed sleep is frequent in children of six or seven years of the rheumatic diathesis, and is accompanied by profuse sweating and severe headache.

New Inventions, etc.

A RETINOSCOPE AND STRABISMOMETER COMBINED.

By John Herbert Claiborne, M. D.

The instrument represented by the following cut consists of a plane mirror an inch and three quarters in diameter, perforated centrally by an aperture for the eye. As a handle to the mirror a strabismometer has been employed. The handle is attached by a joint which snaps and holds fast when extended. Its length is such that when flexed over the mirror it exactly spans it and, being slightly arched in the center, protects the glass from fracture. As may be seen, the handle at its broad extremity is crescentic in shape, and is marked off in lines. The width of the scale is an inch and two eighths, so that a deviation of five eighths of an inch in the visual axis may be measured.



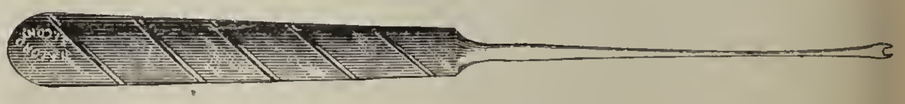
The instrument is handy and may be carried with comfort and safety in the waistcoat pocket. It is of value in the diagnosis at a distance of errors of refraction and in the estimation of the amount of strabismus. It is made by Messrs. Schmidt & Berlin, 16 East Forty-second Street.

A NEW ADJUSTER FOR APPROXIMATING AND INVERTING THE EDGES OF WOUNDS, ESPECIALLY IN OPERATIONS ON THE CERVIX UTERI.

By Sinclair Tousey, A. M., M. D.,

HOUSE SURGEON TO THE ROOSEVELT HOSPITAL.

The instrument that I have devised (that has been in successful use in the Gynæcological Division of this hospital) is seven inches long (of just twice the size of the illustration), and is in effect a miniature pitchfork. The points are as sharp as those of an ordinary tenaculum, and the notch between them is a little less than an eighth of an inch in breadth and depth.



Puncturing the edge of the wound, it can be accurately adjusted and inverted as required while the sutures are tightened. In most operations upon the cervix, especially in Schroeder's and Emmet's operations, the adjustment is much more readily accomplished than by the ordinary tenaculum.

Mr. Clarence Ford has carried out my idea in the construction of an instrument of a single piece of polished steel, which can be readily kept aseptic.

Miscellany.

The Evils of Early Marriage in India are thus spoken of editorially in the September number of the *Indian Medical Gazette*, of Calcutta :

The case of fatal rupture of the vagina in a child-wife consequent on sexual intercourse with a mature husband which we reported in our last issue has attracted attention to a subject of very great social importance—namely, the nubile age of females in this country. The appearance of menstruation is held by the great majority of natives of India to be evidence and proof of marriageability, but among the Hindu community it is considered disgraceful that a girl should remain unmarried until this function is established. The consequence is that girls are married at the age of nine or ten years, but it is understood or professed that the consummation of the marriage is delayed until after the first menstrual period. There is, however, too much reason to believe hat the earlier ceremony is very frequently, perhaps commonly, taken o warrant resort to sexual intercourse before the menstrual flux has occurred. This came out clearly at the recent trial, and was indeed advanced in extenuation of the prisoner's "rash and negligent act" by his counsel, and from evidence which we have gathered since the trial t may be accepted as true that pre-menstrual copulation is largely practiced under the cover of marriage in this country.

From this practice it results that girls become mothers at the earliest possible period of their lives. A native medical witness testified that n about 20 per cent. of marriages, children were borne by wives of from welve to thirteen years of age. The state of matters thus revealed mplies consequences of a very hurtful nature to the victims of the practice of immature sexual congress, to the welfare of the race, and o the tone and well-being of society in general. As regards the unforunate children, apart from the demoralization entailed by premature exual intercourse and the evils consequent on the assumption of the unctions of womanhood in childhood, there is abundant evidence to how that pain, damage, and death result from premature copulation. ases of death caused by the first act of sexual intercourse are by no means rare. They are naturally concealed, but ever and anon they ome to light. Dr. Chevers mentions some fourteen cases of this sort in the last edition of his *Hand-book of Medical Jurisprudence for India*, nd Dr. Harvey found five in the medico-legal returns submitted by the ivil Surgeons of the Bengal Presidency during the years 1870–'72. ut very serious injuries may be inflicted by a mature male in interourse with an immature female short of being fatal—lacerations of he external genitals and severe tearing of the vaginal canal. These re inevitable under the circumstances in every case in which mechanial measures have not been previously resorted to for dilating the sexal passage. There is reason to believe that such measures are not inrequently used, and it is difficult to decide which is the greatest evil nd disgrace—the injury caused by the natural method, or the degradaon due to the artificial. But more physical injury and mortality are robably due to premature maternity than to premature copulation. he function of parturition demands a higher degree of maturity of e skeleton and soft parts than the function of copulation. Difcult and delayed labor, laceration and sloughing of the passages, eath of the child, exhaustion, fever, abscesses, contractions, and tulæ are the principal consequences of premature maternity, and l of these are more common than is generally known. Then early aternity causes premature aging, and accordingly the women of is country lose the bloom of youth and vigor of adult life long efore they ought or would if they were allowed to mature before ecoming wives and mothers. Menstruation is not a sign of marity. It is in the great majority of cases a sign of puberty—of ulation and impregnability. It is not even an infallible sign of that. ome female children menstruate long before they begin to ovulate, hers menstruate once casually and the regular establishment of the uction is delayed for many months; in others ovulation commences ng before menstruation appears. Recent researches tend to show at menstruation and ovulation are by no means so closely related as ey were supposed to be, and menstruation is not therefore the certain and infallible sign of marriageability it is supposed to be in India. But maturity—physical, mental, and moral—is not attained in women for many years after menstruation has appeared, and it is true beyond question or doubt that maternity as a function and duty should be undertaken by mature women and not by immature girls. As regards the race, there can be equally little doubt that the marriage of children, often with aged males, tends to the physical deterioration of the human stock, and physical deterioration implies effeminacy, mental imperfection, and moral debility. The effect of premature covering and bearing is very well understood in stock-breeding, and the more robust races of the world contract and consummate marriage after and not before maturity in every sense of the term has been reached by both man and woman. The social evils caused by infant marriage are a theme rather for the moralist than the physician, but they are very evident, more especially in connection with rape and prostitution. Social customs find in vice and crime hideous exaggerations, and the legalized love of child-wives in marriage is apt to be represented by lust for female children outside of marriage.

The medico-legal returns submitted to the Inspector-General of Hospitals by the Civil Surgeons in the Bengal Presidency for the year 1868 and 1869 formed the subject of a report prepared by Dr. K. McLeod, and those for the years 1870–'71 and 1872 by Dr. R. Harvey. Dr. McLeod's report includes forty-eight cases of rape. In two the age is put down as five years, in seventeen between six and ten, in ten between eleven and fifteen, in seven between sixteen and twenty, in three above twenty, and in nine the age was not stated—that is to say, about half of the victims were under ten and about three fourths of them under fifteen. Most of these children had been badly hurt, some had venereal disease, and in some "the parts gave evidence of habitual or repeated intercourse."

Dr. Harvey's report includes 372 cases, of which 205 were considered certain and 167 doubtful. Of the 205, one was two years old; one, two and a half; one, three; three, four; five, five; nine, six; nine, seven; eighteen, eight; twenty-one, nine; twenty-six, ten; nineteen, eleven; twenty, twelve; thirty, between twelve and fifteen; and nineteen above fifteen. That is to say, of those whose ages are given, 51 per cent. were under ten, and eighty-nine under fifteen. Five of these cases were fatal, and in twenty-five instances, besides external injuries, laceration of the vagina was found. The perinæum was torn in fourteen cases.

Among the "doubtful" cases, "in sixty instances children from nine to thirteen years of age were reported as 'accustomed to intercourse.'"

Statistics of this kind are fortunately peculiar to India, but they tell a ghastly tale. We have no facts in our possession regarding infant prostitution, but very cursory observation in Calcutta suffices to indicate that females are trained and prepared for a life of vice from a very tender age. It is time that native society bestirred itself in this matter. The evil is one which saps national vigor and national morality. Reform must come from conviction and effort as in every other case, but meantime the strong arm of the law should be put forth for the protection of female children from the degradation and hurt entailed by premature sexual intercourse. This can easily be done by raising the age of punishable intercourse which is now fixed at the absurd limit of ten years. Menstruation very seldom appears in native girls before the completed age of twelve years, and if the "age of consent" were raised to that limit, it would not interfere with the prejudices and customs which insist on marriage before menstruation. This would be a step in the right direction; but we would impress strongly and earnestly on the native community that maturity and not puberty is, on physiological as well as social grounds, the true time and condition of marriage.

The Southern Surgical and Gynæcological Association will meet in Atlanta, Ga., on Tuesday, Wednesday, and Thursday, November 11th, 12th, and 13th, under the presidency of Dr. George J. Engelmann, of St. Louis. Besides the president's annual address, the preliminary programme mentions the following: How shall we treat our Cases of Pelvic Inflammation? by Dr. R. B. Maury, of Memphis, Tenn.; The General and Local Treatment of Gangrenous Diseases and Wounds, by Dr. Bedford Brown, of Alexandria, Va.; A Further Study of the Direct and Reflex Effects of Lacerations of the Female Perinæum, by Dr. J.

H. Blanks, of Nashville, Tenn.; Abdominal and Pelvic Surgery in America, by Dr. Joseph Price, of Philadelphia; Intraligamentous Ovarian Cystoma, by Dr. Cornelius Kollock, of Cheraw, S. C.; The Anatomy and Pathology of the Ilio-cæcal Region, by Dr. Richard Douglas, of Nashville, Tenn.; Wet Antiseptic Dressings in Hand Injuries, by Dr. W. Perrin Nicolson, of Atlanta, Ga.; The Best Route to the Bladder in the Male for Disease or for Foreign Bodies, by Dr. Hunter McGuire, of Richmond, Va.; Suprapubic Cystotomy in a Case of Enlarged Prostate, by Dr. W. H. H. Cobb, of Goldsboro, N. C.; The Indications for Cholecystotomy, by Dr. A. M. Owen, of Evansville, Ind.; Uterine Moles and their Treatment, by Dr. J. T. Wilson, of Sherman, Texas; Strictures of the Male Urethra, by Dr. W. F. Westmoreland, of Atlanta, Ga.; The Treatment of Urethral Strictures by Electricity, by Dr. W. Frank Glenn, of Nashville, Tenn.; The Surgical Treatment of Empyema, by Dr. J. A. Goggans, of Alexander City, Ala.; Cases in Abdominal Surgery, by Dr. I. S. Stone, of Lincoln, Va.; Rectal Medication in Pelvic Troubles, by Dr. W. Hampton Caldwell, of Lexington, Ky.; Conservative Surgery in Injuries of the Foot, by Dr. J. T. Wilson, of Sherman, Texas; The Management of the Infantile Prepuce, by Dr. George B. Johnston, of Richmond, Va.; The Ultimate Results of Trachelorrhaphy, by Dr. Virgil O. Hardon, of Atlanta, Ga.; Further Observations on the Dangers of Operative Delay in Prostatic Troubles, with Personal Experience, by Dr. R. D. Webb, of Birmingham, Ala.; The Clinical History of the Epicystic Surgical Fistula, with Cases, by Dr. J. D. S. Davis, of Birmingham, Ala.; Foreign Bodies in the Air-passages, with Report of Cases, by Dr. John E. Pendleton, of Hartford, Ky.; Cholecystotomy, by Dr. W. E. B. Davis, of Birmingham, Ala,; Two Cases of Laparotomy for Intestinal Obstruction, by Dr. J. T. Jelks, of Hot Springs, Ark.; Is Gonorrhœa Ever a Cause of Pelvic Inflammations? by Dr. J. R. Buist, of Nashville, Tenn.; and papers, the titles of which are not determined, by Dr. W. O. Roberts, of Louisville; Dr. L. S. McMurtry, of Louisville; Dr. W. D. Haggard, of Nashville, Tenn.; and Dr. Hunter P. Cooper, of Atlanta, Ga.

The Fairchild Digestive Preparations are said to have formed a part of the outfit of Stanley's Emin expedition, and articles of food predigested with Fairchild's extractum pancreatis to have been used exclusively by Mr. Stanley during his recent illness.

The New York Pasteur Institute.—Dr. Paul Gibier, director of the institute, informs us of the results of the preventive inoculations against hydrophobia performed at this institute since its opening (February 18, 1890).

To date, 610 persons bitten by dogs or cats came to be treated. These patients may be divided into two categories:

1. For 480 of these persons it was demonstrated that the animals which attacked them were not mad. Consequently the patients were sent back after having had their wounds attended to during the proper length of time, when it was necessary. Four hundred patients of this series were advised or treated gratis.

2. In 130 cases the antihydrophobic treatment was applied, hydrophobia having been demonstrated by veterinary examination of the animals which had inflicted the bites or by inoculation in the laboratory, and in many cases by the death of some other persons or animals bitten by the same dogs. All these persons are to-day enjoying good health. In 80 cases the patients received the treatment free of charge.

The persons treated were:

64 from	New York.	3 from	Pennsylvania.	1 from	Ohio.
12 "	New Jersey.	2 "	New Hampshire.	1 "	Arizona.
12 "	Massachusetts.	2 "	Georgia.	1 "	Iowa.
8 "	Connecticut.	2 "	Texas.	1 "	Nebraska.
9 "	Illinois.	1 "	Maryland.	1 "	Arkansas.
3 "	Missouri.	1 "	Maine.	1 "	Louisiana.
3 "	N'th Carolina.	1 "	Kentucky.	1 "	Ontario (Can.).

Intra-uterine Death and Placental Disease.—"Dr. Prinzing, of Munich, has examined a series of placentæ under the microscope, with a view of obtaining fresh knowledge as to the pathology of placental disease. He minutely investigated six specimens; four belonged to dead and macerated fœtuses born at term or prematurely. The histological changes resembled those which have been observed in the vessels of the brain in syphilis. Endoarteritis was marked, and the vascular disease involved plugging, induration of surrounding connective tissue, and calcareous degeneration. The fifth placenta was from a premature birth; the child was dead and macerated. A large white infarct lay in its substance, the result, in Dr. Prinzing's opinion, of coagulation from anæmia. Unlike Ackermann, he attaches less importance to periarteritis in this form of placental disease. In a sixth case, where the fœtus was delivered at the fourth month and was not macerated, intraplacental hæmorrhage was evident even to the naked eye. In the last two cases there was no evidence of syphilis. In all six the diseased condition of the placenta sufficiently accounted for death. The above researches are of scientific interest; diagnosis before birth or abortion is impossible."—*British Medical Journal.*

ANSWERS TO CORRESPONDENTS.

No. 334.—We are not aware of any book that gives them all.

No. 335.—Our impression is that more cases occur in Austria than in any other country. See an article by W. G. Lumley, in the *Journal of the Statistical Society of London*, vol. xxv, 1862, page 219.

No. 336.—We know of none.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, November 1, 1890.

Original Communications.

RETENTION OF URINE
FROM PROSTATIC OBSTRUCTION IN ELDERLY MEN:
*ITS NATURE, DIAGNOSIS, AND MANAGEMENT.**

By JOHN W. S. GOULEY, M. D.,
SURGEON TO BELLEVUE HOSPITAL.

While urethro-vesical obstruction occurs in young and middle-aged men from bladder and prostate stones, from acute prostatitis, from contracture of the vesical neck due to the extension of chronic urethritis, or from malignant disease of the prostate, it should not be confounded with the gradual and slow process of prostatic obstruction which rarely begins to impede urination before the age of fifty-five and is as rarely known to begin after the age of seventy.

To the question, What is it that causes this impediment to urination in elderly men? a common but incomplete answer is enlargement of the prostate. This answer is incomplete because of its failure to specify the kind of enlargement, for it is known that elongation and also uniform general enlargement of the prostate do not obstruct the urethro-vesical orifice or impede urination. Very large prostates have been discovered after death in elderly men who had never suffered the least inconvenience in urinating and whose bladders were in a normal condition. On the other hand, small prostates—*i. e.*, of even less bulk than natural, with only moderate increase of the lower isthmus, sufficiently obstruct the urethro-vesical orifice to give rise to stagnation of urine, cystitis, and even to complete retention of urine.

It is then only when the prostate is unequally enlarged that it interferes with urination, and to this even there are exceptions, for multiple tumors at its base sometimes cause true incontinence of urine, as do other forms of prostatic enlargement which prevent the closure of the urethro-vesical orifice and allow the urine to flow constantly from the bladder as fast as it trickles out of the ureters. In this connection, enlargement of the prostate, conveying as it does only a general notion that the organ is in an abnormal state, needs to be specified, and it can ordinarily in some measure be specified after due observation of its immediate effects; for instance, an elderly man from whom normal urine is constantly dribbling and who suffers no other inconvenience presumably has true incontinence of urine due to some form of enlargement of the prostate which keeps open the urethro-vesical orifice, while another elderly man from whom fœtid purulent urine is constantly dribbling presumably has chronic retention of urine due to urethral or to urethro-vesical obstruction from some one of the forms of prostatic enlargement specified below, urethral stricture or the impaction of a calculus in the urethra having been excluded.

Of the several forms of unequal enlargement of the prostate which obstruct the urethro-vesical orifice the following only need now be named: (1) General enlargement with excessive development of the posterior third of the lower isthmus, called supra-montanal portion by Mercier and third lobe by Home; (2) enlargement of the posterior third of the lower isthmus without apparent increase in the rest of the prostate, sometimes called centric enlargement; (3) enlargement of one lobe which encroaches upon the opposite lobe and obstructs the prostatic urethra; (4) unequal enlargement of both lobes, rendering the prostatic urethra tortuous and obstructing it; (5) multiple intra-urethral tumors; (6) intra-vesical enlargement of one lobe. Such are the principal forms of prostatic enlargement that impede urination.

These alterations of structure differ somewhat in their component elements. The majority of cases are diffuse leiomyomata, with a very small quantity of fibrous tissue accompanying the blood-vessels, and ectasia of the prostatic crypts, the sympexia of the crypts often dying and becoming coated with phosphate of calcium, and consequently increasing considerably in volume. They are those prostates which are softer than normal and which attain the greatest size. In some cases there are multiple circumscribed leiomyomata. Other cases are of diffuse and circumscribed inomata. They are the small, hard prostates which sometimes contain retention epithelial cysts. Adenomata are not so frequently found as are the myomata and inomata, and are circumscribed.

The first effect of urethral or of urethro-vesical obstruction is stagnation of urine in the bladder. The stagnant urine, even a few drachms, soon decomposes, and, acting as an irritant foreign body, gives rise to cystitis. The inflamed bladder then makes vigorous but vain efforts to expel this offending urine, in consequence of which its muscular coat increases in thickness. In certain cases the larger part of the stagnant urine is expelled, but the small quantity which remains is sufficient to induce such frequent spasmodic contractions of the bladder that the capacity of this organ gradually decreases until it is reduced to only two or three ounces. In other cases the bladder is dilated and capable of containing a quart, or even several quarts, of stale urine. In either class of cases, unless artificial relief be promptly obtained, the consequences are of the gravest order. The urine, thus dammed up, leads to dilatation of the ureters, ureteritis, pyelitis, nephritis, and death.

It may be asked, Is it possible to make a reasonably accurate diagnosis of these several kinds of prostatic obstruction? Yes, at least in four of the six just enumerated, and it is of no little practical consequence that they be differenced, for some of them require modifications in their surgical management.

The early manifestations of prostatic enlargement do not always cause anxiety and are often overlooked. The patient, having perhaps only vague notions of his condition, generally misinterprets the gradually increasing frequency of the calls to urination, does not perceive that his urine is slimy, pays little attention to the slight sensation of scalding during urination, is not aware of the significance of the changes in the mode of propulsion of the urine, notably the vertical direction of the jet, fails to notice the diminished size of the stream whose sudden cessation induces him to think that the act of urination is accomplished, when, to his surprise, more urine is expelled drop by drop, to be succeeded by the former perpendicular stream and again by the drops, and does not solicit the advice of his physician until all these symptoms are greatly intensified or until he is already distressed by complete retention of urine.

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* Read before the New York State Medical Association, October, 1890.

Of the several steps in the diagnosis of abnormal urination and retention of urine due to prostatic enlargement, chiefly the following are employed:

The history of the patient's prior ailments, of his actual infirmity, and of his habits of life, having been obtained, an inspection of his general condition is made. His mode of urinating, if he can urinate, is noted, and his urine is duly examined. Then follows physical exploration.

The first step in this exploration is palpation, then percussion of the hypogastric region. If there is no tumefaction, if percussion is clear, it will be inferred that the bladder is empty or nearly so; and if at the same time it is noticed that normal urine is constantly flowing, it will be fair to infer that there is incontinence rather than retention of urine, although the involuntary flow of urine indicates oftener its retention than its incontinence; but if there is a rounded, tense, and painful tumor, dull or flat under percussion, and with this a constant desire to urinate, the inference will be that there is acute retention of urine. If, however, there happens to be a diffuse, slack swelling with fluctuation, also flatness under percussion, a dull instead of an acute pain, and no urgent desire to urinate, but slobbering of urine, the existence of chronic retention of urine will be inferred.

It is proper to state that, while percussion possesses some value in the diagnosis of retention of urine, it is not to be absolutely depended upon. For example, flatness on percussion does not necessarily indicate the presence of urine in the bladder, for, in the hypogastric region, flatness may be owing to a solid tumor in front of the bladder. Circumscribed flatness and fluctuation may indicate a pelvic abscess as well as stagnation of urine in the bladder, with more or less distention. Resonance on percussion does not indicate absence of retention of urine, for such resonance may be owing to the presence of knuckles of small intestine between a distended bladder and the anterior abdominal parietes.

The second step in physical exploration consists in making a digital examination of the prostate through the rectum, by which some idea may be formed of the size and consistence of the organ. As a general rule, hard prostates are little if at all enlarged, while soft prostates are large and sometimes attain enormous dimensions. By this same digital examination, the form as well as the size of the prostate is estimated. It may be simply elongated; one of its lateral lobes may be larger than the other; it may be uniformly enlarged; it may be nodulated, and this suggests the existence of multiple tumors; or it may not be larger than natural, but its apex may be rounded instead of being insensibly lost in the membranous region of the urethra. These are the principal circumstances to be noted from a rectal exploration.

The third step in physical exploration consists in ascertaining the particular kind of prostatic enlargement which affects urination. The exploration is made by introducing certain metallic instruments through the urethra into the bladder. This method was suggested and practiced by Mercier many years ago, and is as follows: A rectangular, short-beaked metallic sound (Fig. 1) or catheter is slowly introduced until it reaches the prostatic region of the urethra. If then the handle turns to the right of the patient, it is because the point of the instrument has been deflected by an intra-urethral projection of the left lobe of the prostate, and *vice versa.* If first to the right and then to the left half an inch or thereabouts farther back, it is because the point of the instrument is deflected first by a projection of the left and then by a projection of the right lobe of the prostate, showing unequal enlargement of both lobes. If the sound meets no impediment until it has nearly reached the bladder, and then its blunt heel encounters an obstacle, it is because there is enlargement of the posterior third of the lower isthmus (supramontanal portion, third lobe). By moderately depressing its handle and gently pushing the sound onward, it enters the bladder. Its beak is then reversed, and turned to the right and to the left in order to form some idea of the general character of the obstacle, if there be intravesical projection.

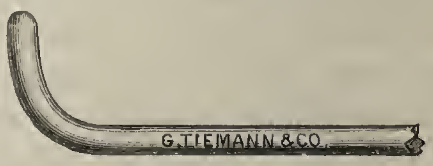

FIG. 1.—Mercier's rectangular sound.

But for greater precision the cysto-pylometer (Figs. 2 and 3) may be used. By means of this simple instrument the thickness of the obstacle can be accurately measured, and it can be ascertained if this consist of a crescentic valvule, of a "bar," or of a sessile or a pedunculated tumor.

Fig. 2 represents the first cysto-pylometer devised by the author. It is so constructed that the vesical extremity of the male blade can easily override any urethro-vesical barrier without giving pain to the patient. This construction of the jaw of the male blade rendering the prehensile part a trifle too short, a new pylometer (Fig. 3) with the male prehensile part one third longer was lately contrived with the view of remedying the defect of the first instrument, but in this new pylometer the inclination of the jaw is so abrupt that it is necessary to observe the greatest care in opening the jaw of the instrument to carry the male part over a urethro-vesical barrier.

The several forms of prostatic enlargement already indicated give rise to acute and to chronic retention of urine.

By acute retention of urine is meant a sudden hindrance to the expulsion of urine from the bladder. It is characterized by great pain in, and an almost intolerable sense of distention of, the bladder; by a scalding sensation in the urethra; and by a constant desire to urinate which seems incessantly on the point of without being gratified.

Acute retention of urine occurs as well among elderly men with incontinence as among those who have no hindrance to normal urination, or only a very slight impediment—*i. e.*, the beginning of prostatic obstruction.

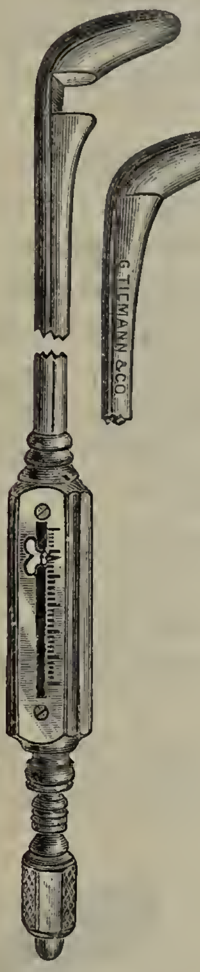

Fig. 2.—The author's first cysto-pylometer.

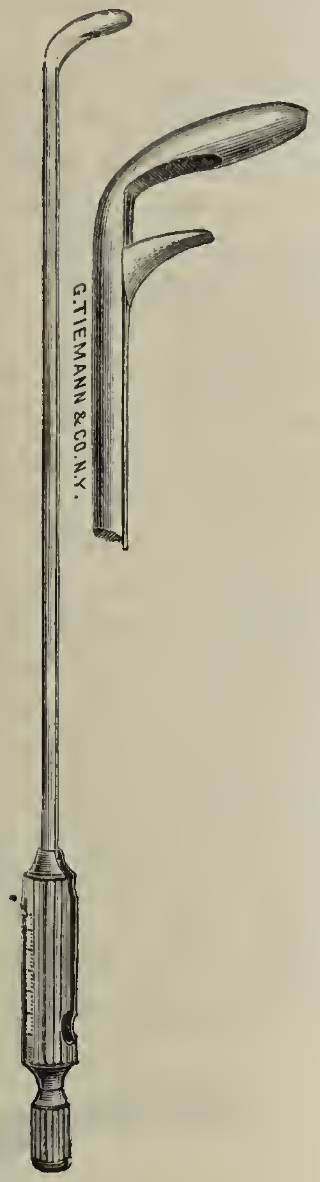

Fig. 3.—The author's second cysto-pylometer.

The mechanism of acute retention of urine is as follows: After exposure to cold, venereal excess, or a debauch, the pelvic vessels sometimes become so gorged with blood that the prostate swells, principally in the direction of the urethra and urethro-vesical orifice, to the extent of occluding the passage. This sudden engorgement is soon followed by exudations which do not always entirely disappear. Resolution is occasionally very slow, and even fails; the swollen prostate is then little, if at all, diminished, and acute retention may thus pass into chronic retention of urine.

Acute retention of urine is ordinarily preceded by dysury for an hour or two. Urination is unduly frequent, irregular, scanty, and accompanied with scalding pain in the whole urethra until strangury occurs; then urine mixed with mucus and blood escapes only in drops at each spasmodic contraction of the bladder. Finally, a few hours after the exposure or debauch, comes ischury. The patient is now unable to discharge a single drop of urine and is tormented with violent straining, which favors the escape of fæcal matter and even causes prolapse of the rectum. The passage being entirely occluded, the urine accumulates from hour to hour until the bladder is greatly overdistended and loses its power of contracting, generally for a time only, sometimes indefinitely. At the expiration of the first day the suffering is still very great, the patient becomes more restless, feverish, and thirsty; his face is congested from the constant straining, his skin is dry, and his intestines are distended with gas. On the second day the pain extends to the lumbar regions, and the dryness of the skin is succeeded by profuse perspiration having a urinous odor. The urine then begins to dribble, and this is delusive to the patient and to his family, who imagine that spontaneous relief has come, when in truth the urine is still accumulating in the bladder, a little only slobbering out from overflow. The consequence of this misinterpretation of a symptom is failure to invoke medical aid until it is deemed proper to repress what is wrongly believed to be a superabundant flow of urine. Meanwhile the patient lapses into a muttering delirium, his utterances being obscured partly by the extreme dryness of his tongue and mouth. The secretion of urine is now lessened (oligury), and may soon be abolished (anury), although the bladder is distended to the extent of four or five pints. In some cases the physician is not summoned until many nauseous, useless, and often hurtful nostrums and diuretics have been administered.

In the management of acute retention of urine to temporize or to rely solely upon the use of medicaments in any case is to place the life of the patient in great jeopardy. Having informed himself of the circumstances connected with the case and having made a preliminary examination, the physician selects the form of catheter best suited and forthwith introduces it, allowing the urine to flow very slowly, and every few seconds stopping up the distal end of the catheter. If called during the first twenty-four hours, he may empty the bladder at one sitting of three quarters of an hour, but if on the second day, he should draw off slowly only about one third of the contents of the bladder, and after this once every two or three hours he should introduce the catheter and allow more urine to flow, until in a day or two he finally empties the bladder, or he may leave in the catheter with its distal end closed and direct that six ounces be drawn off every two hours. The reason for these precautions is that the too precipitate evacuation of an overdistended bladder is sometimes followed by distressing and dangerous effects, such as profuse hæmorrhage from its mucous membrane and consequent general cystitis, polyury, etc.

The after-treatment should accord with the particular necessities of the case. The use of the catheter should not be abandoned until the patient is able to empty spontaneously his bladder, which should not again on any account be allowed to become overdistended. If the swelling of the prostate does not diminish, the use of the catheter should be continued indefinitely. In the mean time the urine should be kept bland by the internal administration of diluents, and the bladder should be irrigated once daily with a warm boric-acid solution, three grains to the ounce, with the addition of one fourth of peroxide-of-hydrogen solution.

By chronic retention of urine is meant a gradual and slow hindrance to the expulsion of urine from the bladder. Its characters are not generally perceived by the patient and are not always manifest to the physician, partly because this retention of urine does not become complete for many weeks or months, or even may never become complete. When incomplete it is at first characterized by much irritability of the bladder, which is constantly wrestling against the obstruction to force out the urine; but this subsides in the course of a few months, when the sensibility and contractility of the bladder are somewhat impaired, as evinced by less painful, less urgent, and less frequent urination, and by the stream being small, feeble, frequently interrupted, and replaced by a succession of drops. When the retention is complete it is characterized by inability on the part of the patient to expel a single drop of urine.

As already stated, chronic retention of urine is the outcome of gradual, progressive, but ordinarily incomplete closure of the urethra or urethro-vesical orifice by unequal enlargement of the prostate which obstructs the canal. From being incomplete, this retention of urine becomes complete when the enlarged prostate further swells to the extent of closing the passage. It again becomes incomplete when from overdistention of the bladder the urethro-vesical orifice opens sufficiently to allow the urine to overflow and slobber out.

The differential diagnosis of acute and chronic retention of urine having been set forth in a paper read before the Medical Society of the County of Kings and published in its proceedings in January, 1882, will not now be discussed.

Grave errors are occasionally made in certain cases of extreme distention of the bladder from neglect to use the catheter as a means of diagnosis, for in elderly men the urine sometimes accumulates so slowly and gradually that the vesical distention causes little or no pain, or the slight pain is attributed to something else, and increases, in the course of weeks or months, to such an extent as to mislead the unwary. Such cases have been confounded with ascites, with abdominal tumors connected with the omentum, intestines, liver, or kidneys, with hydatids, with hydronephrosis, and even with fæcal impaction. In one instance a trocar was plunged into the abdomen, two inches below the umbilicus, the physician believing the case to be one of hydatid cysts, and seven pints of fluid drawn, which proved to be urine.

To the question, What is the most suitable catheter in cases of retention of urine from prostatic obstruction? the reply is that one catheter can not answer in all cases. The catheter should, as far as possible, be adapted to a particular kind of obstruction. Therefore the physician should be supplied with several very different catheters, and, after due exploration, as before indicated, be able to select one which is adapted to the particular deformity found in the prostatic region.

For exploration the metallic instruments already described should be used, but after this, and for evacuative catheterism, metallic catheters should be avoided, for it is by their use that false passages are so commonly made. The most dangerous among these is the so-called prostatic catheter of great curve and extra length. The main difficulties in catheterism, as a general rule, are not due to increased length of the prostatic urethra, but to its several deviations; and a rigid catheter of great curve, even when used with caution, ordinarily fails to pass, besides being very apt to tear the urethra.

The catheters which are indispensable in the physician's armamentarium, all but one—*i. e.*, the soft, vulcanized India-rubber "velvet-eyed" catheter—consist of a tubular fabric of silk, coated with a pliable material, with a single eye close to the vesical extremity; the form of this extremity being in accordance with the particular use to which each instrument is designed. The most useful are the five forms indicated below.

The catheter (Fig. 6) woven upon a curved stylet is well adapted to cases of moderate supramontanal (centric) enlargement, or of urethro-vesical bars. When greater curvature is needed, as in a case of very large tumor of the supramontanal region, or when a false route impedes catheterism, a stylet may be inserted, and the catheter introduced after the method of William Hey. This efficiently replaces the so-called prostatic catheter. All the pliable catheters are from twelve to fourteen inches in length.

The olivary catheter (Fig. 7) is also woven upon a curved stylet; but the straight olivary catheter, very pliable for an inch from the point to the eye, is useful in cases of extremely tortuous urethræ from unequal enlargement of both prostatic lobes.

The elbowed catheter of Mercier (Fig. 4) is particularly well adapted to cases of intra-urethral tumors, of unilateral enlargement, or of unequal enlargement of both lobes of the prostate, but is also successfully used in cases of urethro-vesical barriers.

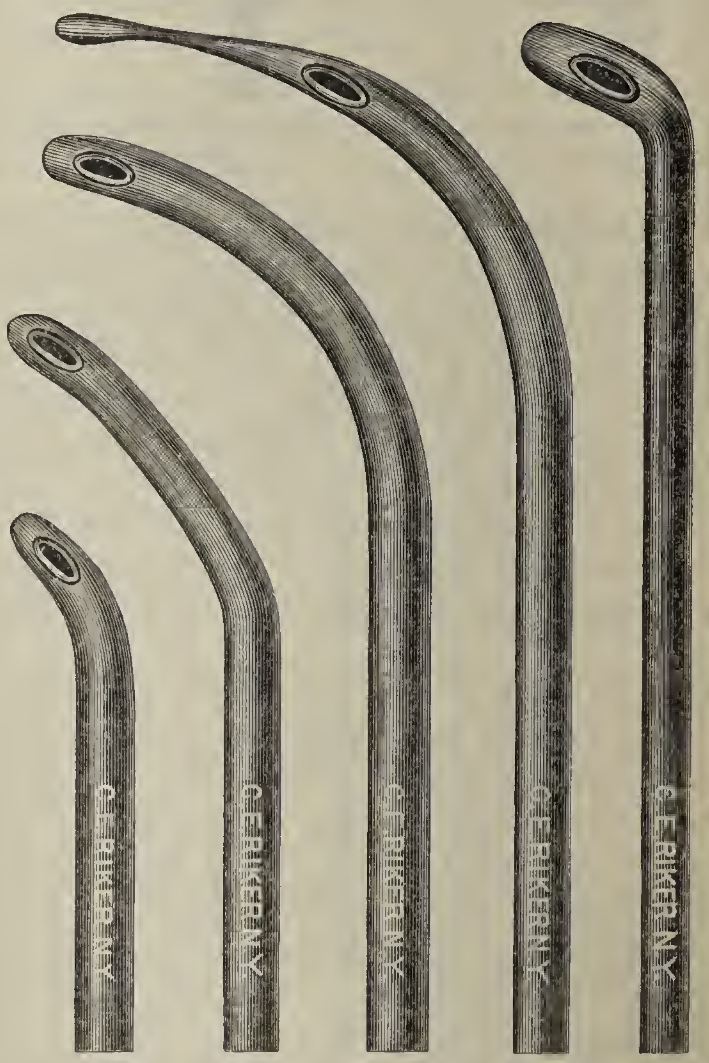

Fig. 4. Fig. 5. Fig. 6. Fig. 7. Fig. 8.

The crutched catheter (Fig. 8), more angular than the elbowed, answers well in cases of great enlargement of the supramontanal region, the heel instead of the point of the instrument coming in contact with and gliding over the obstacle.

The double-elbowed catheter of Mercier (Fig. 5) is adapted to cases of enlargement of the superior isthmus, together with supramontanal increase, causing great depression of the floor of the prostatic sinus.

Respecting the size of the catheters, the question, Should they be small or large? is very commonly asked. The answer is that they should be neither large nor small, but adapted to the particular urethra to be catheterized. A catheter of full size for a urethra under the average is too small for a urethra of extraordinary large caliber. A No. 14 (English) is small for the latter, and entirely too large for the former, to which a No. 7 (English) is likely to be much more suitable. These, however, are extreme cases. The most convenient size to the physician and to the patient, one that strikes a fair average, is No. 9 (English). It is rare to find urethræ that will not admit a No. 9, particularly in cases of stagnation of urine from prostatic obstruction, stricture being excluded. Many patients who are obliged to catheterize themselves labor under the delusion that small catheters are safest and give least pain. To the use of small catheters may be ascribed the majority of prostatic false routes and the frequent attacks of urethritis and orchitis from which auto-catheterists suffer. The best sized and safest catheter for each individual is the catheter that moderately fills and therefore does not stretch the urethra. Such an instrument gives less pain than the too large or the too small catheter.

The India-rubber "velvet-eyed" catheter is ordinarily the safest for general use by the inexperienced and for auto-catheterism, but its long-continued use upon or by the same patient is not advisable. The security felt by the patient is often a source of danger, for he is soon heedless of the precautions advised by the physician and suffers much in consequence. How much more frequently the physician is called upon to remove from the bladder fragments of or entire India-rubber catheters than of other firmer instruments! But, aside from these accidents, the urethra is often greatly irritated by the rubber catheter, not on account of this material itself, but of the carelessness, boldness, and undue frequency of its use, which come of its easy introduction. Painstaking, prudent, and intelligent patients soon acquire sufficient skill in the use of any of the several pliable catheters and learn to keep them in good order.

An important advantage of the India-rubber catheter is that it can be kept in an aseptic condition without injury to its structure. Very lately Vergne, a Paris manufacturer, has announced that he has succeeded in making pliable catheters which are susceptible of being rendered aseptic without injury.

It frequently happens that the physician is called upon to relieve patients from retention of urine when ordinary catheterism is impossible by reason of false passages in the prostatic region. In such cases the common practice has been to make a suprapubic puncture with an ordinary trocar and insert a catheter or a silver tube, to be opened as often as necessary for urination. Twenty years ago capillary puncture with aspiration was introduced to the profession by Dieulafoy, and this novelty soon became the fashion. Many successful cases were reported, and capillary puncture with pneumatic aspiration was to be *the* operation in retention of urine. Although at first no reference was made to accidents, in a few years the vogue of the process was on the wane; now it is employed with more discrimination, and only to relieve extreme distention once or twice, and not ten, twenty, or thirty consecutive times in the same case. Capillary puncture with pneumatic aspiration is an excellent résource in medicine and surgery; it can not be too highly praised, but its abuse should be loudly decried.

No kind of puncture of the bladder ever can remove a false route, and capillary puncture is not so safe a process as was at first believed. The consequences of the escape of a few drops of urine in the prævesical connective tissue have been so disastrous in a number of cases as to deter cautious physicians from employing this method of relief except under circumstances of the greatest urgency; but there is an equally forcible objection to its general employment—to wit, a simple, safe, and efficient procedure has existed for the past forty years. Why it has not been more frequently employed is not apparent, but it is nevertheless valuable. In the year 1850 Dr. Mercier published in the *Union médicale* an account of his invaginated catheter for use in cases of prostatic false routes. Descriptions and drawings of the instrument have appeared in different books and periodicals, but little heed seems to have been otherwise taken of this precious device. It may be fairly stated that in ninety-five per cent. of cases of prostatic false routes the invaginated catheter can be successfully applied. The instrument (Fig. 9) as now made consists of two catheters—one metallic, the other non-metallic. The first or female part is a thin-walled No. 10 (English) silver catheter eleven inches long, very slightly curved, and having in its concavity, about half an inch from the point, an oval eye five eighths of an inch in length and three sixteenths in breadth. From the vesical extremity of the eye is an inclined plane, which is lost in the floor of the opening at the distance of a quarter of an inch, serving to tilt up the point of the male part. This male part is a flexible but firm "gum" catheter (No. 7 English) eighteen inches long, fitting loosely in the lumen of the female part, and having a single eye an eighth of an inch from its point. The way to use the invaginated

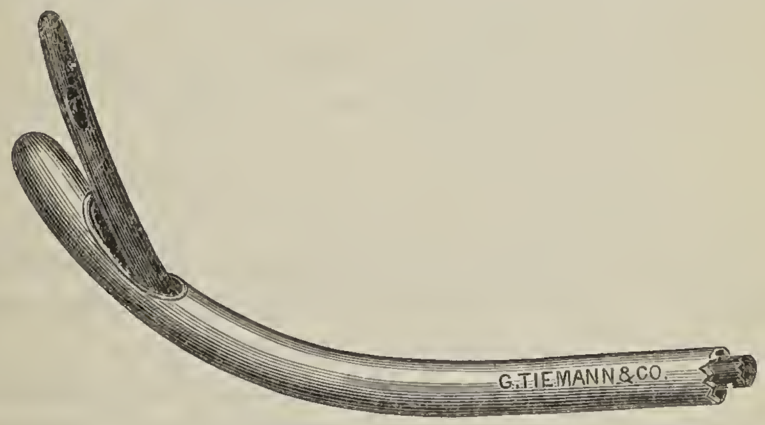

Fig. 9.—Mercier's invaginated catheter.

catheter is to introduce the male into the female part as far as the eye of the latter, then to pass the instrument as far as the obstacle and engage the point of the metallic part in the false route, and finally project the male part, which will override the false route thus blocked and enter the bladder. If no urine should flow, it would be owing to closure of the eye of the male part by a blood-clot, which might be forced out by the injection of a little water through the male catheter. The female part can then be withdrawn and the male left in as long as may be required; this is the reason for the increased length of the male part.

In twenty cases the author has resorted to divulsion of the prostatic false route during catheterism with the invaginated catheter. This process, though comparatively easy, is not advisable except in the most experienced hands. While the immediate result has generally been good, it has not been lasting, for he has not known spontaneous urination to continue more than two years in any case after this operation.

The management of ordinary cases of chronic retention of urine from prostatic obstruction, without false routes, may be summarized as follows: Catheterism having been successful, only a part of the stagnant urine should be drawn off, and the bladder not completely emptied for a day or two, and sometimes not for a week, but the quantity of retained urine should be lessened every day. Then the bladder should be daily washed. In many cases it is not wise to begin at once with irrigations, or to use them too frequently. Bladders that have long contained purulent, slimy urine do not bear the contact of limpid fluids of low specific gravity well at first. It is therefore necessary to increase the density of the water used for vesical irrigation in such, and, indeed, in the great majority of cases. A good formula for vesical irrigation is the following, after dilution of one in twenty:

℞ Hydrarg. chloridi corrosivi...	gr. v;
Ammonii chloridi............	gr. xx;
Spir. gaultheriæ.............	fl ℥ ss.;
Acidi borici.................	℥ j;
Glycerini....................	fl ℥ viij. M.

To half a fluidounce of this solution are added seven fluidounces of warm water (110° F.) and two fluidounces and a half of peroxide-of-hydrogen solution.

These ten ounces of fluid are sufficient for four washings of two ounces and a half at each sitting. Only in very exceptional cases should the bladder be irrigated more than once a day. After the bladder has been completely emptied, evacuating catheterism should be employed every five or six hours, except in cases of contracture with diminished capacity, when the catheter may be needed every two hours. In these cases it is necessary to resort to gradual hydraulic dilatation, a very delicate operation, which is successful when there has not been too long continued cystitis with connective-tissue sclerosis.

The general treatment in cases of stagnation of urine should be conducted in accordance with sound hygienic principles and little else. Opium, belladonna, or hyoscyamus should be used only to relieve extreme pain and spasm. The urine should be kept bland by the use of diluent beverages and the rectum completely emptied every day, for, next to stagnant urine in the bladder, the accumulation of fæces in the rectum is the greatest source of discomfort. A little generous wine at dinner, and a drink of brandy or whisky and water at bed-time, may be allowed without fear of causing local irritation; it is only in excess that alcohol is hurtful in these as in all circumstances.

The question of prostatotomy and prostatectomy, internal and external, will not now be discussed, but a few words will be said of circumstances under which a portion of the prostate may be excised during suprapubic cystotomy for a tumor or stone. When epicystotomy has become necessary for the extraction of a stone or the ablation of a morbid growth, it may be proper to excise a portion of the prostate or a pedunculated prostatic tumor projecting in the bladder and interfering with urination. Pedunculated tumors can be excised by means of scissors with rectangular blades; but if a bar or median outgrowth is to be cut, the rectangular intravesical, suprapubic prostatectome (Fig. 10), constructed on the principle of the hawk-bill scissors of Dr. Skene, will be found to answer the purpose of excising as considerable a portion of the prostatic obstruction as may be desired, leaving a V-shaped chink for the escape of urine.

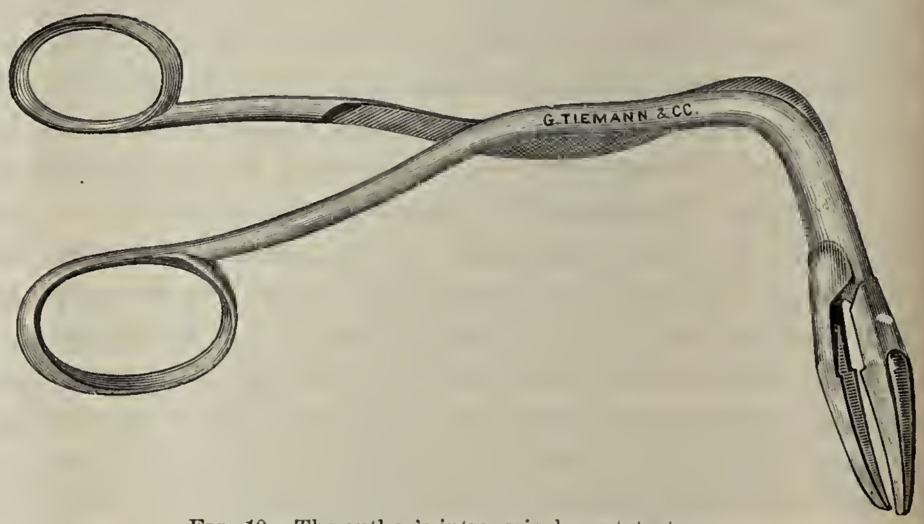

Fig. 10.—The author's intravesical prostatectome.

The removal of a urethro-vesical tumor of the prostate during suprapubic lithotomy was done about half a century ago by Amussat.

HOARSENESS AND LOSS OF VOICE CAUSED BY WRONG VOCAL METHOD.*

By S. W. LANGMAID, M. D.,

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Such a case as the following often presents itself in my own practice, as I suppose it does in the practice of all who see many singers' throats.

A young person, generally a female, complains of hoarseness, of difficulty in producing such tones as still remain to the singing voice, of a constant tired feeling in the region of the larynx, and of aching or pain there after singing.

The history is generally as follows: The patient is a student of vocal music. Before commencing the study of vocalization she sang freely, thoughtless of her manner of doing so, with no sense of fatigue, but, on the contrary, with a feeling of physical enjoyment; in fact, as a child of musical aptitude and a naturally good singing voice always sings.

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* Read before the American Laryngological Association at its twelfth annual congress.

Very soon after beginning to receive instruction she began to experience some of the above-mentioned symptoms, and the highest notes of the voice were produced with increasing effort. After a time these high notes were lost, and at last the speaking as well as the singing voice became hoarse. To such a recital is added the remark that before taking singing lessons there had never been any throat affection or hoarseness.

The examination of the throat reveals perhaps a moderate naso-pharyngitis and a catarrhal laryngitis, and, upon attempted vocalization, one or both vocal bands are seen to be paretic. The closure of the cartilaginous and ligamentous glottis is imperfect and there is defective tension.

Now to the patient as well as to the physician such a history and such appearances reveal nothing more than a catarrhal affection of the mucous membrane, and consequent paresis of the laryngeal muscles, caused by hostile climate. Especially would this be likely if the patient had formerly resided in an inland region and was pursuing her studies in a seaboard or lake city. Of course, under any circumstances, the first command given by the physician would be entire rest of the singing voice and as much as might be possible of the speaking voice also.

The ordinary treatment for the catarrhal condition would be instituted, and, should the paresis not disappear, faradization and strychnine would probably assist the action of the vocal bands and help to restore the quality and capability of the voice.

Such a result will naturally lead to mutual congratulations. But should the cure prove to be short-lived, and the same treatment be required almost as soon as the lessons or practice are resumed, the physician and patient may well ask if a disease which yields so readily to rest and almost routine treatment in an otherwise healthy young person has not some causative factor besides atmospheric conditions.

The natural inference would be that singing had something to do with it. Now singing, properly performed, never injured a healthy throat. I believe, on the contrary, that declamatory exercises and singing are not only restorative to throats which have congestive tendencies, but are also most efficient in preventing catarrhal inflammations. If this is true, and I think no one will dispute it, the decision will not be that singing must be abandoned, but inquiry must be made with regard to the manner of using the voice.

Let it not be said that this is not within the province of the medical adviser. Granted that the laryngologist is not expected to teach vocalization, it is, nevertheless, the fact that the anatomy and physiology of the vocal organs are his daily study.

Most of us are fully competent to detect a wrong physiological procedure by inference, if not by the result which special training or a musically appreciative ear instantly stamps as vocally wrong—that is, physiologically wrong. To abandon the practice of singing may entail in our patients great individual deprivation, as well as loss to a community, small or large, as the case may be.

The medical adviser in the case described above will not be able to prevent the return of the morbid conditions except by determining the fact that wrong use of the voice is probably the cause of its deterioration.

And now it may be properly asked of me to show how the voice has been improperly trained or used.

First of all, let me say that the defects in vocal production are many, and the various wrong ways of singing are almost numberless. The peculiar morbid conditions of the throat which I have described are most frequently caused by the instruction which is given by some teachers, and not infrequently inculcated by treatises on singing, that the tongue should be forced to lie flat in the mouth during vocalization.

If I should assert that this was wrong, I should simply answer one dogmatic assertion by another. Therefore we must examine the mechanism of the natural emission of tone, and contrast this with what we have found will produce the diseased condition which we have described.

A different position of the laryngeal parts is demanded for each note of the scale. In a previous paper I have said that the muscular arrangements of the larynx are capable of adjusting the position of the larynx for every note of the scale independently of the action of the breath. In order that these adjustments may take place rapidly, there must be no hindering, opposing action of antagonistic muscles.

The theory which induces the teacher to insist upon the depression of the tongue is that the cavities of the mouth and pharynx are thereby enlarged, and the corollary is that the larger these cavities are the larger the tone is. Not only is this deduction erroneous, but, if true, the method employed would be the least suited to gain the desired result.

The attempt to depress the tongue necessarily causes tension of the posterior and especially of the anterior pillars of the pharynx, and the isthmus faucium is thereby narrowed. Whatever may be the explanation, the fact remains that such instruction is given by many teachers, and the effects are as pictured above.

Forced flattening of the tongue prevents the necessary free movement of that organ as well as of the jaw and the velum palati. The epiglottis is bent backward and the larynx is driven down and held in a constrained position.

We know that constant alteration in the shape of the mouth takes place during singing, because its shape varies for every different vowel sound.

We all witness, many times each day, that the base of the tongue changes its position or form with each different vowel sound which the patient is asked to produce during the ordinary laryngoscopic examination.

To insist that the root of the tongue should remain flat in singing the vowels *e* and *i* (Italian) is demanding that opposing, hindering muscular efforts shall be put into action; moreover, the natural, frank emission of these vowels is impossible. To *hold* the tongue flat for such vowels as are *naturally* produced with a lower position of the tongue and larynx, *a* and *u* (Italian) is to prevent the free action of the muscular adjustments which are necessary for every successive note of the scale.

So far I have spoken only of the effects of this evil instruction upon the pharynx and the laryngeal movement *en masse.* The constrained and unnatural positions into which the pharyngeal muscles are forced will largely account for the catarrhal processes, but the greatest injury is produced within the larynx itself.

I have said that a different adjustment of the laryngeal parts is demanded for each note of the scale. That a variation in the action of *intrinsic* muscles is necessary is proved by the changed appearance of the glottis with every group of notes which constitute the so-called registers. At a certain note of the scale, differing with the character of the voice—soprano, contralto, tenor, etc.—a well-marked change in the shape of the glottis is perceived by the mirror.* The cartilaginous glottis is closed and the vibration is confined to the ligamentous portion. Again, the shape of the ligamentous glottis changes as the scale is sung upward. Now, all these changes in the shape of the glottis are produced by changing muscular action.

If we consider how rapidly these changes occur we must admit that no restraining force, by opposing muscular action, can be permitted. Add to this the variation in the longitudinal tension of the bands and we need say nothing further with regard to the freedom of action which is demanded for all laryngeal movements.

The fatigue of the intrinsic laryngeal muscles which results in a real paresis arises from the unnaturally forced endeavor of these muscles, together with their assisting extrinsic ones, to form the glottis into the proper shape for the production of the different tones of the scale; for, if the position of the larynx is not the natural one for the production of any note, the glottis-shaping muscles can not perform their function unassisted, and the help of the increased wind-blast is called for.

The contest can not be carried on forever, and sooner or later the tired muscles are incapable of the required contracting force, and tension, as well as adducting power, is lost. The cartilaginous and the ligamentous glottis of one or both sides remain inactive, and congestion of the relaxed bands and an open glottis result. I might stop at this point, but I can not refrain from the brief citation of a few cases which seem to illustrate my argument.

In two cases I have seen extravasation of blood under the mucous membrane of the vocal band—a condition which I venture to call the spirit-level form of hæmorrhage, for the globule of blood during phonation changes its position as the drop of air in the level does at any departure from the horizontal. I first saw this extravasation in the vocal band of a young lady who was being taught to force the tongue flat while singing. I saw the same condition in the vocal band of a favorite actor, whose wonderful character acting has astonished and delighted the public for a few years past. The rôle in which he has been so successful demands a double impersonation—the constant use of a peculiar low voice, quickly alternating with a quite different higher voice of contrasted timbre. The extraordinary low voice is evidently produced by forcing down the larynx, while the result is great vocal fatigue and, certainly on one occasion, has been hæmorrhage into the substance of the vocal band.

Case of a Young Tenor.—A few months ago a young tenor desired my advice for exactly the conditions which have been described in the beginning of this paper. It so happened that for two or three years I had listened to his singing and had had abundant opportunity to know that his voice was a true tenor of large compass and of pleasing quality, but for some months past I had noticed that it had lost much of its brilliancy and purity, and that the upper tones were sung as if with unusual effort. Upon inquiry, I found that he had been studying with a teacher who had insisted that all the different vowel sounds should be sung with flat tongue and low larynx. Abstinence from singing and the complete abandonment of the vicious instruction, together with the usual treatment for the catarrhal inflammation, quickly restored the natural quality and compass of the voice.

What has been so far said is the result of my own observation and belief. It is agreeable to find corroboration in the writings of teachers and physicians. With your indulgence I will make but two quotations which seem too apposite to be omitted.

Patton says:* "But the aim of all vocal practice consists in establishing perfectly normal relations between the motor power and the cords. Now, this result is only to be reached by the absence of all undue efforts; and, whereas certain vocal theorists, who rely wholly for success on various muscular movements, may occasionally produce some local benefit, yet in general they impart to the pupil an idea that singing is laborious work, and the latter seldom reaches, judging from experience and various instances, the ease of tone-emission which is a charm both for the singer and the listener. Therefore, would it not seem far better, as a general rule, that the vocal scholar were told to think as little as possible about his tongue, for instance, excepting to let it alone and at rest, relying for vocal effect exclusively on the correct breath action? . . . Let the vocal student learn to open his mouth with the utmost ease. Let him learn to drop the lower jaw in uttering a tone with the same absolutely unconscious ease, even as the eyelids drop apart, and let him in this natural way develop any other set of muscles called in play for vocal purposes in the most gentle manner, ever remembering how quietly Nature performs all her normal functions. I desire to impress it on the minds of vocal scholars that any abnormal and strained muscular gymnastics for vocal purposes—as, for instance, the pulling up and down of the larynx as a whole, apart from its natural movements, as in swallowing, etc.—must be pernicious, because all such movements are unnatural in singing. The muscles involving the production of the voice are *instinctively* set to work, and their wonderful adjustment far surpasses all human conception and ingenuity."

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* Although this change is not so exact as would appear from the foregoing statement, it is sufficiently so for the argument.

* *The Art of Voice Production*, New York, 1882, pp. 84 *et seq.*

Sir Morell Mackenzie* writes:

"If the master persists in making the pupil sing in a way that is *felt* to be a severe strain, if every lesson is followed by distressing fatigue of the laryngeal muscles, pain in the throat, or huskiness of the voice, then I say, whatever be the authority of your instructor, do not listen to him, but rather heed the warning that is given you by your overtaxed organs."

I am aware that the picture I have drawn exhibits fatigue of the vocal organs and is to be treated as such, but it is not fatigue caused by the legitimate or necessary use of the voice, which may occur to the best singers from the exigencies of the exercise of their profession. It is a fatigue which occurs from wrong vocal training, and has ruined many a good voice.

The pupil is ignorant and trusting, and the teacher conscientiously inculcates a method which, so far as I know, always produces injury. The physician must heal and restore the injured organ, and, if possible, prevent recurrence of the diseased condition. It seems to me that he should warn the pupil that unnatural, unphysiological processes will render his treatment abortive.

OBSERVATIONS ON
THE VARIABILITY OF DISEASE GERMS.†

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The problems relating to this subject may, for convenience, be grouped under three heads:

1. The variation of a given species at will in the laboratory by subjecting it to special conditions.
2. The observed variation of a given species in nature.
3. The relation to one another of bacteria which can not be distinguished by our present tests, but which produce disease in different species of animals.

Under the first head I might cite, by way of illustration, the investigations of Pasteur on vaccination of anthrax and rouget, those of Chauveau on anthrax, etc.

Under the second head I might cite a number of observations now on record. Thus recent investigations of Brieger and Fränkel have shown that diphtheria bacilli from different sources are liable to vary in virulence as well as in intensity of growth on culture media. I have observed marked variation in the virulence of swine-plague bacteria from different epizootics. In cultures of glanders bacilli I have noticed considerable variation in the intensity of growth and production of pigment. Among saprophytes this tendency to vary is still more pronounced.

The problems arising under the third head are very puzzling, and their provisional interpretation has a determining influence upon our conception of the origin and distribution of certain infectious diseases. We know, for example, bacteria, such as the bacilli of mouse septicæmia and rouget, which, as regards appearance and pathogenic properties, are certainly very closely related. One is the cause of a disease of swine in Europe, the other is occasionally present in putrefactive substances and is fatal to mice and pigeons. A still better illustration is furnished by a large group of diseases among animals, including some cattle diseases (*Wildseuche* of Bollinger), fowl cholera and swine plague, which are caused by bacteria very closely related—in fact, scarcely, if at all, distinguishable from one another. Can the germ of one of these diseases produce epizootics of another at any given moment and under certain conditions, or are the barriers which separate these germs insurmountable? If we admit the former—if, for instance, we grant that fowl cholera can give rise to swine plague under certain conditions—we evidently regard the germs of these diseases simply as varieties of one species. If we regard the diseases as wholly distinct and not convertible one into the other, we must consider the respective germs as distinct species.

Without delaying to discuss these problems or express any opinions which I may hold temporarily concerning them, I pass on to the subject of this communication.

Several years ago I presented a brief paper to this Section in which I described a variety of the hog-cholera germ, which presented the minor peculiarity of forming speedily a membrane on the surface of liquid culture media, a feature not possessed by the hog-cholera germ found by me in 1885. This fact, although of apparently slight significance to-day, was of more importance at that time, since our conception of disease germs, formulated by Koch and his school, endowed germs with little if any capacity to appear under varying characters. Since that time, as I have pointed out before, slight variability among disease germs has been detected by many observers.

Early in 1889 an epizootic came under my observation from which I obtained a bacillus departing still more from the original type. It is beyond the scope of this paper to give in detail the biological, morphological, and pathogenic characters of the hog-cholera bacillus. I must refer you to the published reports of the Bureau of Animal Industry, especially those of 1885 and 1886, for this matter. I shall simply refer to those points necessary to bring into relief the differences between the two germs to be compared. I shall designate the original germ of 1885, since found in a large number of epizootics in different parts of the country, as bacillus a, that of 1889 as bacillus β. I should add that neither of the germs has anything in common with the swine-plague germ, which, in truth, belongs to a wholly different group of bacteria.

If I were asked to state in a general way the difference between bacillus a and bacillus β, I should say that the bacillus β was in every way nearer the saprophytic stage than a. This is readily apparent from the following considerations:

On gelatin plates, β grows more rapidly, its deep as well as surface colonies attain much larger dimensions than those of *a*, the surface colonies frequently reaching a diameter of four to five millimetres, while those of *a* usually show little, if any, tendency to spread out. In alkaline bouillon with peptone, *a* barely clouds the liquid, while *β* produces a high degree of turbidity. In other culture media there are no differences perceptible. Bacillus *β* in cultures appears slightly larger than *a*; in the tissues of animals, however, the difference in size is not appreciable.

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* *Hygiene of the Vocal Organs*, p. 103.

† Read in the Biological Section of the American Association for the Advancement of Science, August, 1890.

Bacillus *β* has much less pathogenic power than *a*. Pigs are readily infected with a fatal disease when fed with bouillon cultures of *a*. When fed with cultures of *β* they become very sick, but recover within a week. Only one succumbed to feeding, and in this case the bacilli had penetrated the body only as far as the mesenteric glands.

When we come to smaller experimental animals, the rabbit is perhaps the best to illustrate the differences between *a* and *β*.

When inoculated subcutaneously with bacillus *a* (as little as one millionth of a c. c. of a bouillon culture has been sufficient to produce a fatal disease), the rabbit dies within from seven to ten days. The temperature rises 4° to 5° F. from three to four days before death. At the autopsy the spleen is found very large, due to blood engorgement; in the liver are small foci of yellowish necrotic tissue. The kidneys have undergone parenchymatous inflammation. The urine contains albumin and casts. The heart muscle is far advanced in fatty degeneration. Peyer's plaques in the small intestines are frequently reddened. There are usually hæmorrhagic patches in the duodenum at the pylorus. The bacilli are present in all the organs and in the blood.

When I came to test bacillus *β* on rabbits I was astonished to find that they remained alive even after the injection of a quarter of a c. c. of bouillon culture. It had not happened to me since the discovery of the germ, with the probable exception to be mentioned farther on, to find rabbits survive inoculation. I soon found, however, that the injection of a minimum dose into an ear-vein ($\frac{1}{50}$ to $\frac{1}{100}$ c. c.) gave rise to a fatal disease which differed in the following particulars from the disease as described above: It lasted nearly a week longer. The spleen was not enlarged; the necrotic foci were not found in the liver; there was no hæmorrhage in the duodenum, but, on the other hand, a striking disease of the intestines was present. The Peyer's patches of the small intestines were very much thickened and appeared as aggregations of whitish dots. The mucous surface over these patches was not infrequently covered by a slough. In the appendix vermiformis, part or all of the solitary follicles were enlarged, whitish, nodular, occasionally ulcerated. The Peyer's patches at the ileo-cæcal valve—one in the ileum, the other in the cæcum—were, as a rule, much thickened and covered by sloughs. In several cases the mucosa of the cæcum was covered with ulcers, probably due to bacilli discharged from the ulcerating Peyer's patches and localized here. The bacilli were readily demonstrated in the form of clumps in the infiltrated Peyer's patches and in all the internal organs. The disease might be denominated typhoid fever of rabbits.

The question will be asked, Was this really hog cholera and not some other disease like it? In swine the disease from which the bacillus *β* was obtained was identical with hog cholera as usually observed, with the exception that it lasted somewhat longer, and seemed to affect the digestive tract much more severely than the hog cholera of former outbreaks did.

The following results of experiments which can only be summarized here show that we really have a less virulent form of hog cholera before us:

1. When through attenuation by heat, according to Pasteur, bacillus *a* was so modified as to produce a prolonged disease in rabbits, the same post-mortem lesions were obtained as those produced by *β*.

2. When the disease produced by *a* was prolonged by making the rabbit less susceptible (by vaccination with *β*), the intestinal lesions were likewise present.

3. A series of investigations have shown that rabbits protected by two inoculations of bacillus *β* have resisted inoculation of bacillus *a*.

These results indicate not only that the disease produced by *a* is convertible into the disease produced by *β*, but that *β* may be used in rabbits as a vaccine for *a* when the dose is chosen sufficiently small. In short, the disease produced by *β* is simply a more chronic type of hog cholera in rabbits than that caused by *a*.

I might proceed to draw a great many inferences and lessons from this clear case of variability of a most interesting pathogenic organism, but a few of the most important must suffice. In the first place, the tendency to vary enhances the difficulties surrounding the differentiation of bacteria, especially when the test of animal inoculation upon which so much reliance has been placed should not prove a final test.

As an illustration of this difficulty I may cite a personal experience of my own. Several years ago I was directed by Dr. Salmon to make an investigation of an epizootic of swine disease in one of the Eastern States. From two cases I isolated a bacillus which, though resembling the hog-cholera germ, was not quite like it, and it did not prove fatal to rabbits on subcutaneous inoculation. I was unable to come to any conclusion as to the nature of the germ at the time. When more than a year later I became acquainted with bacillus *β*, I again carefully looked over the notes of this investigation, and, although the cultures had in the mean time been discarded, I felt confident that I had at that time the bacillus *β* in my hands. This tendency to vary also enhances the difficulties arising between observers in different parts of the country. One may find one variety, another a second, and when to this difficulty are added insufficient preparation for such work, hasty conclusions, faulty and incomplete descriptions of experiments as actually performed, of facts as actually observed, mutual distrust is the result.

When we come to such germs as the typhoid-fever bacillus, for which tests upon animals have thus far proved useless, because the bacilli seem to have little or no effect on them, the difficulty of pronouncing a given bacillus the genuine typhoid bacillus or not in the face of possible variation becomes very great, especially when we consider that such investigations have a very great influence upon the administration of public health. The remedy in such cases consists in a thorough, exhaustive knowledge of all the biological phenomena of any given germ.

The experiments with bacillus β on rabbits, which have shown that a veritable typhoid fever may be induced in rabbits, illustrate once again the care which must be exercised in the interpretation of the results of animal inoculation. In the early days of bacteriology an observer might have readily come to the conclusion that this bacillus β could produce typhoid fever in man because it caused ulceration of Peyer's patches in the rabbit. And indeed a prominent observer in this country did make such a diagnosis a few years ago, when inoculation of some germ into cats revealed some lesion of these patches.

The discovery of bacillus β has furnished the means of grouping the hog-cholera bacilli (at least provisionally) with a very common saprophyte living in the intestinal tract of animals, the *Bacillus coli communis* of Escherich. If gelatin plate cultures are made of the contents of the intestines, especially the rectum, of slaughtered healthy cattle and swine, colonies of this bacillus will largely predominate—in fact, superficial observers might consider the fæces as a pure culture of this bacillus. This is not true, however, as there are many forms present which fail to multiply in gelatin. This bacillus may thus be considered a regular inhabitant of the intestinal tract. The bacillus β stands between a and the *Bacillus coli*, forming, as it were, a connecting link. The most obvious differences between the hog-cholera bacilli a and β and the *Bacillus coli*, barring a slight difference in the form of the colonies on gelatin, are the feeble pathogenic power of the latter and its power to cause coagulation of milk by splitting up the milk sugar. The *Bacillus coli* sometimes penetrates into the internal organs in swine diseases, where I have several times detected it during the past three or four years. The dangers of confounding it with the true hog-cholera germ are, therefore, not insignificant. In grouping these forms together I am far from implying that the *Bacillus coli* can be converted into the hog-cholera bacillus, and thus be an ever-present source of hog-cholera germs. The change of saprophytic into parasitic or disease germs probably goes on as slowly as changes in higher organisms, and has nothing sensational about it. The theoretical advantages of thus grouping organisms together will be admitted by all biologists. But there are certain practical advantages most easily discerned by the active worker. We are put on our guard not to confound organisms which may be mistaken for one another, but which are really quite unlike. On the other hand, the facts which have been presented to you show that the danger of keeping apart organisms which in reality belong together is almost as great as that of failing to distinguish between them. In any case, as I have suggested before, a thorough knowledge of all the biological phenomena of groups of organisms, some of which may be pathogenic, some not, and a true sense of the relative value of different properties which are variable will, I think, generally guard us from falling into extreme errors. Finally, in bacteriology, as in the older departments of research, it is the care we bestow upon apparently trifling, unattractive, and very troublesome minutiæ which determines the result.

In the prosecution of this work I received valuable aid from my assistant, Dr. V. A. Moore, as well as from the veterinarian of the Experiment Station of the Bureau, Dr. F. L. Kilborne.

A CASE OF DOUBLE EMPYEMA.

DOUBLE PLEUROTOMY: RECOVERY.

By GEORGE R. WESTBROOK, M. D.,
BROOKLYN.

In the *Transactions of the American Pœdiatric Society*, 1889, Dr. Francis Huber, of New York, reports the history and treatment of two cases of double empyema that came under his observation, in both of which the patients recovered; and gives a list of several others, which are about all the cases that have been reported, so far as I have been able to find.

As these cases are seldom seen, and, as recovery is probably not the usual termination, the following case, coming under my care last spring, is of interest:

February 15, 1890, was called to see F. M. P., female, aged four years; was told that the day before she had walked across the river on the Brooklyn Bridge, about a mile and a quarter. During the night she was ill with symptoms of croup; the family had used some domestic remedies, which had partially relieved her. I found her with a croupy cough, slight dyspnœa, and slight rise in temperature; prescribed one tenth of a grain of calomel every hour; saw her again in the evening, when the croupy symptoms had disappeared; the cough was then loose and the temperature normal, and she was feeling quite comfortable.

Next morning found her with a dry cough, temperature 101°, pulse 120, respirations 40, and complaining of pain in her right side. On examination, found dullness on percussion and bronchial breathing over lower lobe of right lung. Diagnosticated pneumonia.

20th.—Coughs a great deal; cough is loose, but she does not expectorate. Temperature 100°, pulse 120, and respirations 48.

22d.—Her condition is about the same. To-day Dr. F. H. Stuart saw her in consultation and confirmed the diagnosis of pneumonia.

March 1st.—During the past week she has had severe pain in the abdomen, bowels loose, passing undigested food, and occasionally complaining of nausea. Her pulse has ranged from 120 to 130, temperature 100° to 101°, and respirations from 50 to 60. Fed her with peptonized milk, beef juice, and brandy. Her cough still continues loose, though there is occasionally a day when it seems tight.

5th.—During the past few days the area of dullness has increased; to-day made an exploratory puncture with a hypodermic syringe and found pus.

6th.—Assisted by Dr. B. F. Westbrook, after giving her chloroform, an incision was made between the seventh and eighth ribs a little posterior to the axillary line, when about a pint of pus drained away; a soft-rubber drainage-tube was inserted and the wound dressed with marine lint and absorbent cotton. The quantity of pus discharged for several days was sufficient to saturate the dressings. The wound was dressed daily. Notwithstanding the free drainage, her condition did not improve, her temperature keeping between 100° and 102°, pulse 120 to 130, and respirations from 50 to 60. Her stomach troubled her more now than at any time during her illness, and she had constant pain and frequent vomiting.

12th.—As pus was found last evening by means of a hypodermic syringe in the left pleural cavity, it was aspirated to-day and four ounces removed.

18th.—Since the aspiration on March 12th her condition has not changed; temperature fluctuating between 100° and 102°, pulse 120 to 130, and respirations 50 to 60. To-day the left pleural cavity was again aspirated, but only about two ounces of very thick pus were obtained, when the needle became plugged; it was removed and inserted in a new place, but with a negative result. During the past week the right pleural cavity has been washed out daily with a warm 1-to-5,000 bichloride solution; suppuration was very free and very offensive in odor.

27th.—To-day the left pleural cavity was again aspirated and six ounces of pus were taken away.

Her condition does not seem so good; she is weaker, and it is with difficulty she can be induced to take any nourishment; her pulse and temperature have kept about the same, but her respirations are accelerated, running from 60 to 70. Before the aspiration to-day had intended to do a pleurotomy, but her father would not consent.

April 12th.—For four or five days after the last aspiration her condition improved; her pulse and temperature became lower and her respirations less frequent; her appetite improved, and she had very little trouble with her stomach and bowels, but during the past week the unfavorable symptoms have returned; to-day she was aspirated for the fourth time and ten ounces of pus were removed.

19th.—She has not improved since the last aspiration, her pulse, temperature, and respirations still keeping very high. To-day she was aspirated for the fifth time, but only two ounces of pus were obtained.

May 6th.—As there has been no improvement, and as the left pleural cavity is evidently filling up, her father consented to have an operation done. So to-day, assisted by Dr. B. F. Westbrook, after giving her chloroform, an incision was made into the left pleural cavity and about eight ounces of thin, dark-colored, and foul-smelling pus were evacuated. A soft-rubber drainage-tube was inserted and a dressing of marine lint and absorbent cotton applied. There was considerable shock following the operation; she was put on an ounce of champagne every hour, which was retained after the second dose; after five or six hours the interval was increased to two hours. The next day she commenced to take a little peptonized milk.

The left pleural-cavity was washed out daily with a 1-to-5,000 bichloride solution for four days, when her temperature came down to normal and remained there. From this time there was a steady improvement, though her pulse and respirations did not come down to normal for three or four weeks.

The tube was removed from the right side on June 8th, three months after the operation, and the sinus had closed ten days later.

On June 22d the tube was removed from the left side, seven weeks after the pleurotomy, and the sinus was closed in a week.

At this writing, three months after the second tube was removed, the child seems well. The percussion-note and auscultatory sounds are normal; her appetite is good and she has gained in weight.

Indubitably the second pleurotomy in this case should have been done at least a month earlier, but it was impossible to get the consent of her family.

How many times it is advisable to aspirate a pleural cavity containing pus before making an incision I can not say. There is nothing very formidable about the operation, and certainly in this case there was no benefit derived from aspiration.

THE TREATMENT OF INTERNAL HÆMORRHAGES.

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There are few more trying positions which the practitioner of medicine can find himself suddenly forced to occupy than that of facing a severe internal hæmorrhage—cerebral, pulmonary, gastric, intestinal, or uterine. At the lonely hour of midnight and far away from consultation he may be called upon to act; and it is well to have one's mind already made up as to the course that should be pursued in the various forms of hæmorrhages, for "to be forewarned is to be forearmed." It is with the view of summing up our knowledge on this subject, and with the hope of adding a few new points, that this contribution is offered to the medical profession.

In the first place, it is very apparent that the amount of blood that will flow through a rent in the wall of any vessel must be greatly influenced by the total amount of blood in the system and the amount of pressure upon the vessel from within. This being the case, the first step to take in dealing with a hæmorrhage is to cut off the supply of liquids. In this way the amount of blood is kept down, while it becomes thicker in quality and better fitted for the forming of a good, firm clot in the torn or ruptured vessel. Another step in the same direction is to reduce the volume of blood by actively eliminating water from the system. The hypodermic injection of pilocarpine rapidly unloads the body of water and inspissates the blood left behind, lessening thereby the freeness of the flow. This would not, however, be suitable in cases of pulmonary bleeding. Other diaphoretics might be selected, according to the judgment of the physician, or the nature of the case and the condition of the patient.

Another group of remedies is of much value in dealing with such cases. Those purgatives that produce copious watery stools, and at the same time are not irritating or depressing, must be placed high on the list of things we may use for the relief of the sufferer intrusted to our charge. Of these purgatives there is none so good as Epsom salts—the sulphate of magnesium. When given in saturated solution, without water, in free doses, and oft repeated, very free watery evacuations are produced, the amount of fluid in the vascular system is speedily lessened, and the hæmorrhage to this extent controlled. By maintaining this action for some time, the ruptured vessel has time to heal, because the pressure is largely taken off it, and it is put into the condition of rest. In addition to this, however, the blood is thickened. In some cases of cholera—sporadic or epidemic—where the rice-water stools have been very abundant, the blood becomes so reduced in volume and so inspissated as not to flow from a wound made in a large vein. In the event of the hæmorrhage being due to the ulceration of typhoid fever, this plan could not be had recourse to, although I have used it with advantage in the bleeding of gastric ulcer. In the hæmorrhage, often so free, from soft and rapidly growing uterine fibroids, it is specially useful, if continued long enough—say for months.

Some persons have a strong tendency to bleed, and any hæmorrhage is hard to stay. The mucous membranes of the nose, stomach, bowels, or bronchial tubes ooze away, and though the flow may not be very rapid at any one time, the total amount lost is very considerable. I once saw a girl of thirteen brought almost to death's door by such a hæmorrhage from the mucous membrane of her lip. In purpura we know how readily patients suffer from subcutaneous extravasations. For this form of slow, continuous oozing the following formula may be found highly serviceable: Mix one ounce each of absolute alcohol and oil of turpentine in a glass or Wedgwood mortar. To this add very slowly, stirring all the while, one ounce of sulphuric acid. When all chemical action is over, the mixture may be bottled. Of this, ten or fifteen minims may be ordered every two, three, or four hours as needed. I have found these "black drops" of very great value in some exceedingly troublesome cases.

In the event of a very severe post-partum hæmorrhage the medical attendant may try ergotine hypodermically, or hot vaginal or rectal injections; but these may fail. It is a belief, not yet quite dead, that the uterine sinuses are closed by clots. This is quite erroneous. The uterine vessels and sinuses are interlaced by muscular fibers, and it is the contraction of these that arrests the hæmorrhage. This muscular tissue, as it were, ligates the vessels that would bleed; and so long as the contraction is good there is no danger. Now, for the maintenance of this tonic action of the muscular tissue in the uterus I have found the application of heat to the lumbar portion of the spine very useful. It stimulates this portion of the nervous system by bringing more blood to it. There is a greater influx of nerve energy to the uterus and contraction is brought about. It is true that the uterus seems to be very independent of the spinal cord, and labor may take place in a paraplegic. This does not, however, invalidate the fact that heat—applied to the spine by a large sponge dipped into hot water—does much good in the way of rousing the uterus to action. But when all things fail, as fail they will at times; when ergotine, acetate of lead in large doses, hot injections, and heat to the spine disappoint us, we have one last resort: Tampon the uterus and vagina thoroughly with iodoform gauze, or, if this is not at hand, some cloths to which glycerin is added. This plan I am quite sure will not fail. The bleeding is soon arrested, the uterus begins to contract, tone in its walls is secured, and one can feel at ease that the patient is out of all immediate danger.

As a means of arresting hæmorrhages and gaining time for other remedies, I would suggest the following plan, one great feature of which is that it is always available and does good. It is applicable to cases of capital operations on the body, such as the removal of large and vascular tumors from the neck, the female breast, etc. The plan is simply to tie bands around the legs and arms close up to the body. This arrests the return of blood to the body, while the flow of blood into the limbs still goes on. By this means a very large amount of the blood in the body is rapidly collected into the four extremities and the pressure taken off the central vessels. One day, when in my last year as a student, in 1879, I was walking along the streets, when I came upon an excited little crowd of people. I saw that one of the number, a young man of about thirty years, was bleeding freely from his lungs. I had nothing with me, but had just been thinking about venesection and the swollen condition of the veins in the arm. I seized the present opportunity, tore up a handkerchief, and tied the strips very firmly around the four extremities. The results were very gratifying. Ever since I have made extensive use of these bands, and now feel a good deal of confidence in recommending them to others.

I have already mentioned the usefulness of the hot sponge to the lumbar region in post-partum hæmorrhage. Now, in other cases of internal hæmorrhage—as from the mucous membranes of the stomach, nose, and bowels—the spinal ice bag is no mean therapeutic agent. It induces anæmia of the spinal cord and a marked dilatation of the surface blood-vessels. The internal strain is reduced, and consequently the hæmorrhage lessens.

A CASE OF TRAUMATIC NEURITIS

ILLUSTRATING THE MEDICO-LEGAL VALUE OF ELECTRICITY IN DIAGNOSIS.

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The statement was recently made in the presence of the writer that the number of civil suits for damages for injury received through accident or carelessness averaged, in the courts of the cities of New York and Brooklyn alone, as many as five hundred weekly. The additional statement was made that at least one third of these cases were fraudulent, the trivial character of the injury received, or some other factor, entitling the plaintiff to neither damages nor commiseration. The important point in such cases is the difficulty in discriminating between the honest suitor and the malingerer. With a skilled expert this is ordinarily not a troublesome task. It should be remembered, however, that, in the majority of instances, these suits are for small amounts, and the insignificance of the sum at stake does not justify the employment of an expensive specialist. The only medical testimony introduced in such cases is that of the attendant physician, who is usually a general practitioner, and, by reason of that fact, not competent to express an expert opinion. In many instances the injury is of such a gross and palpable character that the simple appearance of the plaintiff in court is all that is necessary to convince both judge and jury of the justice of his claim. Such cases rarely come to trial, however, for the defendant recognizes the strength of the suitor's position and his own consequent weakness, and the case is settled out of court. Very serious injury may have occurred, however, and of a permanent character, of which there may be no evidence superficially, or even upon fairly close examination, except the sensations of the patient. The patient's statements, when he is also plaintiff and a money issue is at stake, are notoriously unreliable. The most striking and conspicuous illustration of the difficulties encountered in adjusting such cases upon a basis of merit is to be met with in the numerous suits in which the plaintiff's injury is that of so-called spinal concussion. The medicolegal literature of the subject alone represents an expenditure of money which would afford a generous income for life to every honest victim of this injury. There is another class of cases which bids fair to rival the now famous "railway spine" in the obscurity which often surrounds a correct diagnosis and a consequent correct estimate of the amount of damage incurred. For this new class of cases we are indebted to the investigations of the neurologists, who have added to the nosology of medicine a comparatively new and distinct entity in disease in neuritis, or inflammation of a nerve. While it is true that nerve inflammation, from injury or other cause, has been for many years recognized pathologically and, to a certain extent, symptomatically, it is only within the recent past that the symptomatology and clinical diagnosis have been accurately understood, or the disease classified as a distinct affection in text-books upon medicine. Even to-day, full as is our knowledge of the subject, cases are not infrequently encountered in which the absence of objective symptoms renders a diagnosis a matter of much obscurity and doubt. Such a case recently occurred in the practice of the writer, and is taken as the occasion for this paper. The history is as follows:

On November 6, 1889, I was called to see B., aged fifty-nine, a janitor by occupation. I found him suffering from an injury to the right shoulder, said to have been received two days previously, caused by a fall through an open coal hole in the sidewalk. Upon removing the bandages and dressings, which had been applied at the hospital immediately after the receipt of the injury, I found his shoulder very much swollen and discolored from bruises involving the outer aspect of the shoulder and upper arm, the region occupied principally by the deltoid group of muscles. Careful examination showed no evidence of fracture or dislocation, though there was considerable interference with motion from soreness and swelling, especially in abduction. The swelling was sufficient to produce a difference of an inch and an eighth in the circumference of the two shoulders, as shown by measurement. The patient freely announced his intention of bringing suit for damages, and insisted upon a careful and accurate examination of his condition, which, however, revealed nothing beyond the symptoms detailed above. The swelling and inflammation gradually disappeared under treatment, and the interference with motion became less. On December 23, 1889, nearly eight weeks after the injury was received, the patient called at my office complaining of continued pain and a loss of power in the arm affected. I had not seen him for nearly two weeks previously. The pain, he stated, was confined to the outer aspect of the shoulder. Upon examination, I found no special painful spot, but tenderness on pressure and pain on motion in areas supplied by the supra-acromial branch of the cervical plexus and the circumflex nerves. The swelling had disappeared entirely, and motion in every direction was normal, except that elevation of the arm at the shoulder was done quite slowly on account of the pain produced in the attempt. There existed a state of cutaneous hyperæsthesia and a subjective sensation of numbness in the part affected. Measurement of the two arms showed no special wasting or atrophy. The right-hand grasp was slightly diminished. Pain, tactile and muscular sense were normal in the forearm and hand. A mild current from the secondary coil of a faradaic battery gave a painful, irritable response. To the galvanic current the response was at that time normal. Although neuritis was suspected, a diagnosis could not at that time be made which would conform to the requirements of a medico-legal standard. The patient's condition remained practically unchanged up to May, 1890, the pain and weakness varying in intensity and degree, the periods of temporary amelioration corresponding to treatment by electricity, which was kept up, though with great irregularity and at infrequent intervals. Examination on May 2d showed slight atrophy, which, however, might have been (apparently) due to non-use. Pain was still complained of, and the loss of power had increased, as shown by the patient's greater helplessness and the dynamometer, neither test, however, being absolutely reliable. The hyperæsthesia had disappeared, though the subjective sensation of numbness still remained. I failed to demonstrate absolute loss or very marked diminution of either tactile or pain sense in the upper arm and shoulder. Muscular sense, on account of the difficulty of testing it in this locality, I did not investigate. So far my diagnosis of traumatic neuritis, while more plausible, was not established, but, upon testing the circumflex nerve by the galvanic current, all doubt was at once dispelled, the reaction showing a reversal of the normal polar formula of Erb—an indication of degeneration.

A brief *résumé* of the history and circumstances of the case will bring out the more clearly the points which it is intended to illustrate. A man received an injury under circumstances which gave him good grounds for a suit for damages. Carelessness on the part of the defendant could be easily established and was practically not denied. The extent and permanency of the injury received, by which the amount sued for was to be regulated, was the only point at issue. It can readily be seen that here was a strong motive for exaggeration, in both particulars, in a man whose social sphere and surroundings were such as to almost preclude the possibility of any extraordinary sense of moral or ethical responsibility. There was little tangible evidence of serious injury for a long time. The arm, after the swelling disappeared, looked like its fellow, and the symptoms of pain and loss of power might have been readily assumed. Such, at any rate, was the plea of the defense, and upon it they expected to either defeat the plaintiff outright, or so far to reduce the amount of damages awarded as practically to win in any event. On the other hand, the plaintiff's case was a just one; he had been seriously and more or less permanently injured (for the prognosis is not extraordinarily good in such cases and never certain), but how was he to prove it? His personal statement, that of the interested party, was almost the only evidence to support his claim. The physician might have testified as to a probable diagnosis, but, until after the demonstration by the galvanic current of a degeneration in the nerve, his evidence would have been problematical and necessarily uncertain in its effect. This demonstration, however, altered the whole aspect of the case. Becoming satisfied of its correctness, the attorneys for the defense, foreseeing defeat, would not allow the case to come to trial, but paid over at once almost the full amount claimed as damages.

My object in reporting this case is to illustrate the value of electricity as a means of diagnosis, already firmly established, in diseases of the nervous system. In this particular instance it transformed a prospective failure into an absolute success, it proved an invaluable aid to the administration of justice, and it lifted the black shadow of suspicion from an honest man.

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LETTER FROM LONDON.

Post-graduate Instruction in London.—The University of London Scheme.—The Commencement of the Winter Session.—The Clinical Society.—A New Dictionary of Practical Medicine.

London, *October 11, 1890.*

The third session of the London post-graduate course is about to begin, and the present time may therefore seem not inopportune to review its working and success so far. It was framed originally with the intention of affording to practitioners in our own country or to those from foreign parts an opportunity of brushing up their knowledge and becoming familiarized with modern methods of diagnosis and treatment, and for this purpose our leading special hospitals united to give a combined programme of clinical lectures and demonstrations. Five hospitals originally took part in it, representing diseases of the chest, of the nervous system, of the eye, of the skin, and of children; and subsequently arrangements were made whereby the patients at one asylum for the insane and one poor-law infirmary were made available for the purposes of the class. The hospitals that joined in the scheme were the best known in their respective branches. The lectures and demonstrations were so arranged as not to clash with each other, and yet so that the members of the class should have their time fairly well occupied, and the fee for the course was ridiculously small. Moreover, it was permitted to any one to join for only certain portions of the course if he wished to do so and pay a proportionate part of the fee. Notwithstanding all the advantages which the scheme appeared to offer, the number of entries was absurdly small, and the second course did not meet with more success than the first in point of numbers, and, if this third course does not attract students in greater numbers, the scheme will almost inevitably die a natural death. The lecturers and teachers engaged in it are almost without exception men who hold appointments at the general hospitals, with plenty of teaching to do at their own schools, and it can not be expected that they will continue to take part in this post-graduate teaching unless there is much better evidence than has hitherto been supplied that their efforts are appreciated. It is my firm belief that the great majority of English, Scottish, Canadian, and American practitioners, who every year spend a lot of time and money in Paris, Berlin, or Vienna, would do far better if they spent the time in studying at the special hospitals of London.

In my last letter, I believe, I referred to the University of London scheme as on the point of being satisfactorily arranged. I was a little too premature in doing so, for at the last minute the senate of that body found themselves quite unable to reconcile the conflicting views pressed upon them from all sides, and gave up the task in despair. Such a contingency had been foreseen, but it is one thing to be able to foresee what may happen and quite another to be able to prevent it. What will probably happen now is that the commissioners who were formerly appointed to consider this subject, and by whose advice the existing university was requested to undertake the settlement of the questions, will be called upon to resume their labors, and that they will frame a scheme which the Government will endeavor to carry into effect, whether the existing bodies like it or no. In their former report the commissioners were divided as to whether a new university should be founded or not. It is tolerably certain that a new university is inevitable now, a fact which I think the great majority of those who have followed the question have long since realized.

Another winter session has begun, with its usual complement of introductory addresses and old students' dinners, and the chief topic at present is as to the relative number of entries at the different schools. I suppose they will be published next week. At present I have no very reliable information to give on the subject, but I should not be surprised if this year and next the entries were unusually good, for in 1892 the new regulation will come into force requiring a five-year curriculum instead of four, and that will presumably mean an increase of fees—a fact to which parents and guardians will be fully alive.

The Clinical Society is the first to get under way this year. It held its first meeting yesterday evening. It is also the first in the field with its annual volume of *Transactions*, which was distributed to the members a few days ago. The volume is quite up to the average of its predecessors, the majority of the papers, as usual, being surgical. Perhaps the first is as valuable as any. It is by Mr. Mayo Robson, and refers to a series of fourteen cases of cholecystotomy.

The only book that has come out lately of any importance is a *Dictionary of Practical Medicine*, published by Messrs. Churchill and edited by Dr. Kingston Fowler. It is of convenient size, and those who like having their subjects condensed for them ought to be pleased with it, for the writers include all the best men of the rising generation of physicians. The articles are short and to the point, and, for the most part at any rate, do not waste the reader's time with long dissertations upon theoretical points. The book has come out none too soon, for Quain's *Dictionary* is undergoing revision, and will be a formidable antagonist for its younger rival.

Two well-known names have been added to our death roll during the last few weeks. Handfield Jones has passed away in the fullness of years after a long and active career as a clinician and pathologist. A stupendous worker, he never became widely known, but at his own hospital (St. Mary's) he was greatly respected. Dr. Matthews Duncan, on the other hand, was of world-wide renown, and as a clinical teacher and lecturer had few if any superiors, certainly none in his own line. He will long be missed at St. Bartholomew's Hospital, where his lectures were immensely appreciated.

The Mortality of Widowers from Phthisis.—"In a paper on Tuberculosis in Belgium MM. Destrée and Gallmaerts come to the conclusion as the result of their investigations that, in comparing the mortality from phthisis of bachelors, married men, and widowers, the last are very much more subject to this disease than either of the other classes. The same statement holds good for all ages, and it is, they say, also true that widows are more liable than single women to die of phthisis. The authors do not think this is to be explained except by direct contagion of wife to husband or husband to wife. They can not think irregularities and excesses indulged in by widowers can be answerable for it, for advanced age does not seem to make any difference. They would ascribe it to infection occurring during married life, the disease claiming its second victim some time after the death of the first."—*Lancet.*

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NEW YORK, SATURDAY, NOVEMBER 1, 1890.

ACUTE PLEURISY AND ACUTE RHEUMATISM.

In 1883 Aufrecht drew attention to the decided results he had obtained in the treatment of acute pleurisy with the salicylates. Recent writers, notably Tetz (in the *Therapeutische Monatshefte*, No. 7, 1890), have confirmed his observations. We must allow that the title of a remedy to cure acute pleurisy must be very well substantiated. Acute pleurisies have a way of stopping short without treatment, of beginning with a fierce pain which suddenly abates, and of suddenly going on into the stage of extensive effusion with very little warning pain at all. Nevertheless, the successful results of the administration of salicylates in acute pleurisy, as recorded by these writers, are sufficient to raise in our minds the question as to whether acute rheumatism and acute pleurisy are not the same disease. Long ago Mr. Hilton, in his admirable lectures on *Rest and Pain*, pointed out the resemblance between the pleura and pericardium and the joints. The pleural cavity represents a huge joint constantly in motion. It has the two surfaces covered by serous membrane and gliding smoothly upon each other by the aid of a lubricating fluid. And Mr. Hilton went on to apply his law of associated muscular action, nerve supply, and function to the pleura, showing how, when inflammation took place, the nerves of the pleura that were directly in communication with those supplying the intercostal muscles called for cessation of movement, and how the pain felt in the skin over the inflamed area was the agent by which this needed rest was obtained. Practically the same thing occurs in the joint that is inflamed and painful from acute rheumatism. Probably the resemblance between inflammation of a serous membrane and that of a joint would be more striking were the conditions exactly similar. But in the case of the serous membrane complete rest of the opposed surfaces can not be obtained. The lungs can not cease taking in air, and the heart can not stop beating. Probably this accounts for the more fibrinous and adhesive character of the effusion, a further effort of Nature to secure rest. In the case of the joint immediate rest is secured, and the effusion is not adhesive in ordinary cases.

The clinical features of acute rheumatism point to a common origin with pleurisy, if not to a practical identity. Many cases of acute articular rheumatism are complicated with effusion into the serous membranes. We say *complicated*, but we mean really that the pleural joint or the pericardial joint has been attacked as well as the wrist joint or the elbow joint. And pleural effusions are of much more frequent occurrence in the course of rheumatism than is commonly supposed. In the ordinary run of cases of acute rheumatism the joints are so very painful that an examination of the bases of the lungs is not quite practicable, and, moreover, there are many practitioners who do not injure themselves with overzeal in the clinical examination of patients, particularly after a good working diagnosis has once been made out. We are satisfied that, if pleural effusions in rheumatism were more frequently looked for, they would be oftener found, and those who found them would be more disposed to regard rheumatism as a general attack on all the joints, including the serous membranes.

The general tendency to look with suspicion upon "exposure to cold" as a cause for so many diseases, to regard chilliness as an effect consequent upon the poisoning of the system by some external agent, rather than as a cause of disease, makes us skeptical as to whether such a thing as *pleuritis a frigore* exists. Is it not more rational to regard it as being due to some inherent tendency in the individual to inflammations of an arthritic form, and to infer that, when pleurisy occurs alone, it simply means that only one joint is affected, or perhaps that the main attack has been upon one joint, the others escaping lightly? The frequent occurrence of pleurisy without effusion into other joint cavities might arise from the fact that into the pleura a quantity of fluid may be effused rapidly, while when the joints are the main point of attack but little can make its way into them. To borrow an old expression, the *materies morbi* readily leaves the blood to fill up the pleural cavity, but, attempting to pour itself into a joint, it meets with resistance and seeks an outlet elsewhere. The effect of the salicylates, so well marked in rheumatism, ought to be equally good in this disease, and we trust that many observations will be made in this interesting subject.

FAULTY METHODS OF SINGING.

Physicians have from time to time called attention to the injurious effects of faulty methods in the use of the singing voice. We do not recall, however, so pointed and convincing an argument against the practice of forcing the tongue to lie flat on the floor of the mouth while singing as is contained in Dr. Langmaid's article, published in this issue of the Journal. That the author speaks with the authority of one well versed in vocal physiology, and having had abundant opportunities for observing the actual relationship of cause and effect between certain styles of vocal exertion and the physical impairments that he attributes to them, everybody conversant with what has been going on in laryngology in this country for a number of years past is fully aware; but it seems from his article that, in addition, he speaks with no little knowledge of the real requirements of the art of singing. Even were all this not the case, however, the presumption in this matter would be altogether in favor of his contention, for attempts to trammel an organ in the performance of any of its functions seldom if ever accomplish anything that can be called advantageous, all things considered, and almost as rarely anything desirable considered by itself. Forced depression of the tongue in singing probably increases the reverberation that takes place within the cavity of the mouth and swells the volume of sound, but mere quantity of clang is a small factor in vocal music, and, if it were the chief factor, it might perhaps be obtained by devices that, however grotesque they might seem, would not interfere with the play of any of the parts concerned in phonation and articulation.

We do not know how general the practice of forcing the tongue down is among singers, or what proportion of those who resort to it escape the serious disability that was observed in Dr. Langmaid's cases; but it is evident that there is a good deal of defective enunciation among public singers, and it seems reasonable to suppose that it may be due in great measure to the practice in question. The tongue is not absolutely essential to intelligible articulation, as is shown in persons who have had the misfortune to have the member excised; but its importance to that function is unquestionable. Vocal music is defective so long as the words are not distinctly uttered, no matter what the excellence of phonation may be. Probably the best results as regards both elements are to be attained, other things being equal, only when the composer is his own librettist, for it is well known that certain notes are easier of production with some vowel sounds than with others. If the proper conformity of words to notes were always maintained, perhaps such devices as restraining the tongue in singing might be resorted to with an approach to impunity, for possibly it is the tax they impose on articulation rather than on phonation that proves injurious. Until it is shown, however, that this is the case, vocalists will show their prudence by avoiding them.

MINOR PARAGRAPHS.

THE SLEEPING SICKNESS OF AFRICA.

At the Harley House, London, there is a young man, a native of the Congo River valley, who has journeyed to England for the purposes of an autopsy. He believes himself to be in the incipient stage of the mysterious and incurable disease known as the sleeping sickness, and he has left his wife and children to place himself and his body, after death, at the disposal of the medical men, in order that they may so study his case as to ascertain the cause, morbid changes, and means of relief of this comparatively unknown malady. The young man's name is Mandombi, and he is a member of the missionary church at the Banza Manteka station, where not fewer than sixty of his fellow-converts have been carried off by the sleeping sickness. His own sister is dying by it; she becomes almost maniacal at the full of the moon. His brother, by marriage, died by it at about the time of his departure, which was a spontaneous action on his part, in order that by dying in a foreign land he might perchance benefit his yet unafflicted countrymen. Mandombi is yet well and able to work, but he is smitten with the trouble, as is shown to others by some little impairment of his mental alertness. The disease is not believed to be contagious, although several members of the same family may die by it. So far as the observation of the missionaries goes, no case has been saved from a fatal termination by treatment. The duration may extend for three years, or it may be only two or three weeks. As the disease progresses the patient is said to sleep his life away, although in severe cases maniacal symptoms develop. Great emaciation marks the chronic cases. "Nelavan" is a term used by Déclat and some other French writers as descriptive of the sleep disease of Africa at some points to the north of the Congo, but on the west coast, where it appears to be endemic, Déclat thinks he has found some points of resemblance between nelavan and the chicken-cholera. Mr. Stanley makes no reference in his last volumes to the occurrence of the disease among his carriers, not a few of whom were probably taken from the lower Congo districts, where the disease is most frequent.

THE SEXUAL PERVERSION OF HAIR-CUTTING.

Dr. A. Motet, the well-known alienist, has reported to the *Société de médecine légale*, as recorded in *Le Progrès médical*, a case of unusual sexual perversion. A young man was arrested for attempting to cut off a young woman's hair. The police were led to make a search of the rooms occupied by the accused, and there found a considerable quantity of hair, the motive for the cutting off of which had been sexual and not mercenary in origin. It was subsequent to an attack of herpes intercostalis in 1886 that his erratic behavior began; he then for the first time began to have the imperative propensity to cut off women's hair. So soon as the shears would touch the hair he had an erection, and the cutting off was followed by an ejaculation. It was found that his parents, on both sides, had transmitted to him a marked neurotic tendency, but this had not prevented his acquiring his trade and becoming a skillful and intelligent artisan. He was adjudged insane and confined for a time in an asylum. He recovered under treatment and was set free from his peculiar perversion. He was enabled afterward to resume work at his trade.

ANÆSTHESIA BY HYPNOTISM.

According to the *British Medical Journal*, Dr. Schmelz, of Nice, recently removed a sarcomatous breast from a girl, aged twenty years, during anæsthesia produced by hypnotism. The entire breast, with the aponeurosis of the pectoralis major muscle, was removed by the usual oval incision, drainage-tubes were inserted, and the wound was closed with thirty-two metallic sutures. The operation lasted an hour, the patient remaining in a state of anæsthesia during the entire period, though she encouraged the operator by her words, laughed, and was quite gay. The only symptom noticeable during the operation was great pallor of the countenance, but there was no dilatation of the pupil or weakening of the pulse. She had no pain after the operation, and the wound healed on the fifteenth day.

A SLUR ON THE POLYCLINIC CORRECTED.

The statement having been made in one of the New York newspapers that a young Alabama clergyman had "died from the effect of an operation performed in the New York Polyclinic eight months since and pronounced at the time 'highly successful,'" the father of the deceased, also a clergyman, has had the manliness to write to the editor of the newspaper assuring him that the operation was indeed completely successful, and that his son's death could in no way be attributed to it.

THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

The meeting to be held shortly in Atlanta will undoubtedly be one of great interest and profit to the members of the association. This is to be inferred from the programme, which we have already published, as well as from the character of the past meetings. The association must be set down as one of exceptional vigor. It includes most of the leading surgeons and gynæcologists of the South, and is evidently well managed.

THE PUBLIC SCHOOLS OF NEW YORK.

Much has been said from time to time about the bad sanitary state of some of the public-school buildings of New York, but little impression seems to have been made on those who are charged with their supervision. Last Monday evening, however, the committee on hygiene of the Medical Society of the County of New York made a report setting forth the defects of certain of the buildings most pointedly, and this report, having been summarized in some of the newspapers, seems likely to prove more effective.

DEATH FROM FOOTBALL INJURIES.

A fatal casualty is reported by the *Lancet* resulting from a football match. A young man came into collision with another player and was injured in the groin on Saturday, September 20th. On Monday he was dead, although meanwhile an operation had been attempted for his relief.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 28, 1890:

DISEASES.	Week ending Oct. 21.		Week ending Oct. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	44	9	37	7
Scarlet fever	25	1	42	1
Cerebro-spinal meningitis	0	0	0	0
Measles	52	5	82	6
Diphtheria	57	17	67	21
Small-pox	1	0	0	0
Varicella	2	0	1	0

The Johns Hopkins University.—It is announced that a committee of ladies who had resolved to raise the sum of $100,000 for founding a medical college to which women would be admitted has succeeded in its object, and that the trustees of the Johns Hopkins University have accepted the fund in accordance with the following terms, stated in a communication to them from Mrs. Davis:

"The committees formed for the purpose of raising a fund to procure the most advanced medical education for women can now place at your disposal the sum of $100,000 for the use of our medical school, if you will by resolution agree that women whose previous training has been equivalent to your preliminary medical course shall be admitted to the school, when it shall open, upon the same terms which may be prescribed for men. There is little doubt that a sufficient number of women ought to be educated and trained in such manner as to be fully able to care for sick women who may wish or ought to be treated by women. We have devoted ourselves to the furtherance of this object. We have reason to hope that a university which proposes to found a medical school intended to teach advanced methods in the treatment of those diseases which afflict mankind will not refuse to women the opportunity of learning such methods. There is now a general interest in our movement. In order that this interest may be sustained, we ask you to consider our offer at the earliest possible moment."

The Medical Society of the County of New York.—At the annual meeting, held on Monday evening, the 27th inst., officers for the ensuing year were elected as follows: President, Dr. Orlando B. Douglas; vice-president, Dr. Arthur M. Jacobus; secretary, Dr. Charles H. Avery; assistant secretary, Dr. William E. Bullard; treasurer, Dr. John S. Warren; and censors, Dr. George E. Abbott, Dr. S. O. Van der Poel, Dr. Alexander S. Hunter, Dr. William M. McLaury, and Dr. Richard Van Santvoord.

The Mount Sinai Hospital Alumni Association.—At a meeting held at the hospital on Tuesday evening, the 28th inst., Dr. Abraham Jacobi read a paper on Some Points in the Pathology and Therapeutics of the Genito-urinary Organs, and Dr. Charles H. May read one on The Early Eye Symptoms of Chronic Alcoholism.

Changes of Address.—Dr. Augustin M. Fernandez, to No. 209 West Tenth Street; Dr. Maurice L. Healey, to No. 220 East Thirty-sixth Street; Dr. Elizabeth Johnson, to No. 68 West Thirty-eighth Street; Dr. M. R. Richards, to No. 77 East One Hundred and Sixteenth Street; Dr. Edward F. Schwedler, to No. 43 East Fifty-ninth Street; Dr. Winslow W. Skinner, to the Adirondack Cottage Sanitarium, Saranac Lake, N. Y.; Dr. J. E. Welliver, from Rushville, Ind., to the northeast corner of Second and Ludlow Streets, Dayton, O.

The Death of Dr. George T. Foster, of Pittsfield, Mass., occurred on October 22d, of gastro-enteritis. He was born in Lyndon, Vt., in 1810, and graduated from the Albany Medical College in the class of 1847. He began practice in Windsor, Mass. He remained there but a short time, when he removed to Chatham, N. Y., where he practiced for a number of years. Finally his health failed and he again removed to Pittsfield, where he afterward resided. For over twenty years his health did not permit him to engage in active practice, but he was well and favorably known in the vicinity as a consultant. He is survived by his son, Dr. M. L. Foster, of New York.

The Death of Dr. Justus E. Gregory, of Brooklyn, occurred suddenly on October 26th, while he was absent from his home. He was a great sufferer from neuralgia, and occasionally obtained from chloroform inhalation a sufficient relief to enable him to complete his round of visits. On Sunday last he had recourse to this treatment while resting in an apothecary's shop not far from his office, but death ensued suddenly. He was an expert, in the minds of his professional neighbors, in the administration of anæsthetics. He was a native of Troy, and an alumnus of the Albany Medical College.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 19 to October 25, 1890:*

Glennan, J. D., First Lieutenant and Assistant Surgeon, is granted leave of absence for one month, to take effect about the 31st instant. Par. 1, S. O. 146, Department of the Missouri, October 23, 1890.

Jarvis, N. S., Assistant Surgeon, is granted leave of absence for one month on surgeon's certificate of disability. S. O. 107, Department of Arizona, October 14, 1890.

Pilcher, James E., Captain and Assistant Surgeon, is granted leave of absence for four months, by direction of the Secretary of War. Par. 12, S. O. 244, A. G. O., October 18, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 25, 1890:*

Cordeiro, F. J. B., Passed Assistant Surgeon. Detached from U. S. Steamer Nipsic and granted three months' leave of absence.

Heffenger, A. C., Passed Assistant Surgeon. Placed on the Retired List, October 20, 1890.

Society Meetings for the Coming Week:

Monday, *November 3d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *November 4th:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hampden, Mass., District Medical Society (Springfield); Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association; Baltimore Academy of Medicine.

Wednesday, *November 5th:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of

Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *November 6th:* New York Academy of Medicine; Metropolitan Medical Society (private); Society of Physicians of the Village of Canandaigua; Medical Society of the County of Orleans (annual—Albion), N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *November 7th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *November 8th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, held in Louisville, October 8, 9, and 10, 1890.

The President, Dr. J. M. Mathews, of Louisville, in the Chair.

(*Concluded from page 469.*)

Coffee.—Dr. I. N. Love, of St. Louis, in a paper on this subject, said that his experience for five or six years past had been strongly in favor of taking a cup of strong, black coffee, without cream or sugar, between two glasses of hot water, before rising every morning—at least an hour before breakfast. The various secretions were stimulated, the nervous force was aroused, an hour later a hearty meal was enjoyed, and the day's labor was begun favorably, no matter how the duties of the day and night preceding might have drawn upon the system. Another cup at four in the afternoon was sufficient to sustain the energies for many hours. In this way the full effect was secured. If, along with this, the proper diet was taken at the proper times—and the ideal diet for those who make large drafts upon their nervous systems and expected to have them honored was hot milk—and at least eight hours of sleep were taken out of every twenty-four, one's capacity for work would be almost unlimited.

Mechanical Obstruction in Diseases of the Uterus.—Dr. George Hulbert, of St. Louis, read a paper on this subject. He submitted the following conclusions: 1. That in the natural order of things we find the uterus in form and structure endowed with a power and capacity for the performance of the function of menstruation far in excess of any legitimate demand, to the extent that with a quarter-inch diameter of the canal the excess equals 7724·8 times the demand, and with a one thirty-second-inch diameter the excess equals 120·7 times the requirement. 2. That in the pathological conditions considered essential for mechanical obstruction we find that the conservation of force is capable of regulating, and does so regulate, conditions that the capacity is not abolished, but persistent in an eminent degree, so that in the presence of the normal physiological energy the function is accomplished, save in one emergency, that of total annihilation of the normal state—namely, atresia. 3. That the phenomena considered as attendant and dependent upon mechanical obstruction are not due to the forcible expulsion of retained fluids through the uterine canal, but are resident and produced *within the tissues*, and are dependent upon *disturbed rhythm of physiological forces*, evolved through abnormal innervation, muscular action, and circulation. 4. That the demand upon the uterus for the passage of blood-clots, membranes, mucous plugs, uterine sounds, sponge tents, uterine dilators, etc., in order that the diagnosis of mechanical obstruction may be made, is not only vicious in the extreme, but irrational, illogical, and unscientific. 5. That the correct and rational interpretation of the testimony offered by symptomatology, pathology, and therapeutics removes mechanical obstruction from the domain of gynæcology as a demonstable fact, save in atresia uteri.

Professor Flint's Doctrine of the Self-limitation of Phthisis was the subject of a paper by Dr. William Porter, of St. Louis, in which he said that some time before his death Professor Flint had promulgated the doctrine of the self-limitation of phthisis, and presented it with all his well-known power and great ability to the profession. This very interesting proposition had been at the time the subject of free debate in various medical societies. Recent years had been full of the wonderful results of the study of pulmonary disease and bacteriological research, and the possibility of a positive diagnosis had overshadowed the equally interesting question of prognosis. After having carefully examined the facts cited in support of the proposition, Dr. Porter had no hesitation in asserting that he found no sufficient evidence to warrant us in accepting the statement that phthisis was self-limiting, or that the element of self-limitation had a decided influence upon the result in any given case. He did not mean that all patients with phthisis necessarily died from this disease, but he did mean that where phthisis was firmly established there was nothing in the nature of the disease itself that indicated in any stage a fixed boundary—a line of demarkation, as it were—but rather that all its tendencies were progressive and downward.

Cough; its Relation to Intra-nasal Disease.—Dr. A. B. Thrasher, of Cincinnati, read a paper on this subject. The cough due to nasal disease might sometimes be recognized by its metallic ring and the absence of expectoration. It could, as a rule, be provoked at will by touching the irritable spot in the nose with a probe. Dr. Thrasher recited three cases illustrative of nasal cough.

The Medical Student was the title of a public address by Dr. John A. Wyeth, of New York. The hall was literally packed with people, and many members of the association who had come to hear the lecture were turned away, the students of the Louisville University having taken possession of nearly all the seats, thus literally freezing the members out. The address was listened to very attentively, and Dr. Wyeth received applause several times during its delivery.

He said the first or preliminary stage of a medical student's life was his preparatory or academic life; the second, his medical-college life; the third, his post-graduate or practical life, and it lasted from the day he left his alma mater until usefulness ceased. In the acquirement of a practical training three ways were open, and in order of preference they were: 1. Service as an interne, preferably for a term of two years, in a general hospital. 2. Service in some post-graduate institution where all departments of practical medicine were taught by teachers specially trained in their respective branches. 3. Service as an assistant to one or more well-qualified practitioners in general medicine.

Gunshot Wound of the Intestine.—Dr. M. T. Scott, of Lexington, Ky., reported a case. (To be published.)

The Cranial Development of Criminals.—Dr. G. Frank Lydston, of Chicago, exhibited the skulls of a number of the most notorious criminals of the world, and made some remarks with reference to their peculiarities, shape, size, etc.

Cases of Penetrating Stab Wounds of the Abdomen; Laparotomy; Results.—Dr. H. C. Dalton, of St. Louis, read a paper thus entitled, in which he reported six cases of laparotomy in which there was visceral injury. One of them had ended in death and five in recovery. He laid particular stress on the necessity of following the wounds to the bottom and making ocular inspection of the same rather than trusting to the introduction of the finger. He deprecated depending implicitly on Senn's hydrogen-gas test, on account of its fallibility.

Wiring the Separated Symphysis Pubis, supplemented by a Novel Pelvic Clamp, was the title of a paper by Dr. W. P. King, of Kansas City. He reported a case of separation of the symphysis pubis, with fracture of the interposed fibro cartilage and fracture of the descending ramus of the pubes with deep lacerations of the surrounding soft parts, and spoke particularly of the methods resorted to in order to support the pelvis and re-enforce the stitches after the pubic bones had been wired together. The case suggested the following points: 1. The operation of wiring so completely coaptated the parts that it would seem that scarcely any other method of dealing with this condition could be equal to it. 2. The manner of applying the plaster-of-Paris support in the first place, with the use of the water-bag to make an arch under which to dress the wounded parts, was new and original so far as the author knew, and it was a method that might be adopted and easily practiced by any one who knew how to use plaster of Paris. 3. The steel hip clamp as a permanent support was also new, so far as he knew, and was a means that might be adopted with benefit in any case of fracture of the pelvis in which immobilization of the fractured part would contribute to the comfort of the patient and to the union of the fracture.

Inguinal Colotomy.—Dr. Arch Dixon, of Henderson, Ky., in a paper on this subject, said that colotomy had during the past decade met with much attention from the surgical world. As a measure intended to ward off imminent death, it was called for in all cases of obstruction in the colon, from whatever cause arising. For imperforate anus the operation held a special position. It was intended to prevent impending death, but it might or might not be a cure for the disease. In many cases it was the first step in the process of cure. In every infant born with an imperforate anus an operation of a local nature was first attempted; if this failed, colotomy by some method was performed to ward off death. Later on an attempt might be made to get the bowel to discharge through the anus. In a few words, it might be said that the indications to operate in any given case depended, in the first place, on the chance that the patient had of getting well without an operation; and, in the second place, on the degree of probability of success following the operation. To cases of acute obstruction in the sigmoid flexure or elsewhere there was practically but one termination—death. No case of volvulus, whether of the large or small intestine, had as yet been known to recover under treatment purely medicinal. Here, then, the indication was clear enough, as clear as the indication to tie a bleeding carotid—an operation. Dr. Dixon reported an interesting case, after which he dwelt upon the comparative merits of the two operations, inguinal and lumbar colotomy.

Hypnotism in its Relation to Surgery.—Dr. Emory Lamphear, of Kansas City, read a paper on this subject and reported cases. He reported a case of double talipes in which the subject had chronic Bright's disease, which contra-indicated the use of ether, and at the same time had an organic heart trouble, which prevented the safe use of chloroform. The patient wanted to be operated upon, and the author hesitated to give the ordinary anæsthetic, and so hypnotized him. This was the first séance, and, contrary to the generally accepted idea that at the first trial a sufficient degree of anæsthesia could not be produced to admit of an operation, he performed the operation for talipes, and the patient lay upon the table as fixed and immovable as a piece of marble during the whole procedure. Another case (reported by permission of Dr. Shaw, of St. Louis) was that of a patient suffering from Jacksonian epilepsy due to brain tumor. He was hypnotized and trephined, and made no manifestation of pain.

Certainty in the Diagnosis of Tuberculosis.—Dr. Theodore Potter, of Indianapolis, presented a paper in which he mentioned features of the disease that called in a peculiar way for early treatment. But this must depend upon early diagnosis. In spite of constant progress from the time of Laennec to that of Flint, there had been no one sign and no combination of signs that was absolute. There was always some uncertainty, especially in the early or unusual cases. But now, with the new light of the present added to the knowledge of the past, we were able to make the diagnosis in the great majority of cases not only early, but with absolute certainty.

The Hypodermic Use of Arsenic.—Dr. Harold N. Moyer, of Chicago, contributed a paper on this subject. He said the hypodermic use of Fowler's solution had been recommended by various writers, among others Hammond, who stated that the dose that could be administered in this way was much greater than could safely be administered by the mouth, he having given as high as fifty drops of Fowler's solution as an initial dose. Again, he had often carried the amount given by the mouth to the utmost bounds of prudence, till the eyes were puffed and vomiting was almost incessant, and then had continued the use of arsenic in larger doses by hypodermic injection, with the result of the cessation of all gastric symptoms and the cure of the disorder. In a case of chorea in a girl, the patient had been placed immediately upon the hypodermic use of arsenic, beginning with three minims of the five-per-cent. solution and increasing every second day until three weeks after beginning treatment she was receiving thirteen minims of the solution at each injection, with an amount of arsenic equivalent to about thirty-six minims of Fowler's solution. At the ninth injection she was discharged cured. In the case of a woman who presented herself at the clinic in Rush Medical College with an enormous lymphadenoma of the side of the neck, after a few deep injections into the glandular mass it began to diminish rapidly. When it had lessened one half, the patient ceased attending, and the further results could not be noted. Dr. Moyer's observation was in accord with that of numerous writers who had reported equally good results from the use of Fowler's solution in various forms of glandular enlargement passing under the terms lymphoma, lymphadenoma, and Hodgkin's disease. The action of arsenic given under the skin, if it had any virtue, must certainly be greater than when it was taken by the stomach. Thrown into the cellular tissue in the form of a feeble alkaline and readily soluble salt, it was at once absorbed by the blood and carried to all the tissues.

Perineal Cystotomy versus Suprapubic Cystotomy.—Dr. H. O. Walker, of Detroit, read a paper on this subject. (To be published.)

Two Cases of Tubal Pregnancy were reported by Dr. Edwin Walker, of Evansville, Ind. He thought that laparotomy was the safest procedure to adopt.

The Treatment of Organic Stricture of the Male Urethra.—Dr. Seaton Norman, of Evansville, Ind., contributed a paper thus entitled, in which he said that in the practice of urethral surgery the operator could not be too emphatically impressed with the fact of the exquisite tenderness and sensitiveness of the urethra, and the employment of the slightest amount of force in the introduction of an instrument should be regarded as a relic of barbaric surgery. When commencing the treatment by gradual dilatation in sensitive patients, he always produced local anæsthesia by the injection of twenty to thirty minims of a four-per cent. solution of hydrochloride of cocaine. Relative to internal urethrotomy, he believed that when it was properly and thoroughly executed, and special care was exercised to maintain the patency of the canal until the wound was entirely healed, recontraction was of rare occurrence. Authority was divided in regard to the performance of internal urethrotomy in the bulbous and membranous urethra. Judging from the results obtained by Harrison, the combination of external and internal urethrotomy offered encouragement for the permanent cure of stricture. Dr. Norman had performed external urethrotomy without a guide only three times, and his results as regarded the non-recurrence of contraction had been entirely satisfactory. Of the various scales that had been proposed for urethral instruments, only the French, in his opinion, was worthy of consideration. To have urethrotomes graduated in millimetres—and all with which the author was familiar were so manufactured—and the sounds corresponding to the English or any other scale, was a manifest absurdity.

The Application of Antiseptic Methods in Midwifery Practice.—Dr. L. S. McMurtry, of Louisville, Ky., made some impromptu remarks on this subject. He said many medical practitioners could remember the time when they had heard that the wards of certain hospitals were closed and undergoing renovation because puerperal fever had become epidemic in such institutions. The hospital to-day was the safest place in which a woman could be confined. A few years ago, led by Fordyce Barker, we had been taught that puerperal fever was an entity, a distinct fever, dependent upon a separate materies morbi, just as malarial fever was an entity. To-day we knew that puerperal fever so called was a septic peritonitis, just as when a woman became infected after abdominal section or after wounds of the peritonæum from any cause, or from infection of the endometrium and, through the Falloppian tubes, of the peritonæum. A woman after labor was a wounded woman. She had undergone certain physiological processes; she had received certain injuries in the process of labor which opened the lymphatic channels by which she might have become infected from without. There was no such thing as a woman having a peritonitis unless she was infected from without. To prevent this infection, the vagina must be sterilized, the bed surgically clean, the examining finger clean, the nurse clean, and the atmosphere as approximately aseptic as it was possible to make it, etc.

Officers for the ensuing year were elected as follows: President, Dr. C. H. Hughes, of St. Louis; vice-presidents, Dr. John H. Hollister, of Chicago, and Dr. S. S. Thorn, of Toledo; secretary, Dr. E. S. McKee, of Cincinnati. It was voted to hold the next meeting in St. Louis, beginning on the third Wednesday in October, 1891.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN PÆDIATRICS.

Meeting of October 10, 1890.

Dr. L. Emmett Holt in the Chair.

Stricture of the Rectum following an Operation for Imperforate Anus.—Dr. H. D. Chapin presented an infant, thirteen months of age, which he stated had been discovered at birth to have imperforate anus. It had been operated upon by simple incision at once. Since that time the child had suffered from chronic constipation, and when brought to the hospital was in bad condition, having had no passage from its bowels for several days. A very tight stricture was found to exist just within the anus. An enema was given of ox-gall and glycerin, and a free evacuation resulted. This treatment was repeated daily. Examination revealed a large concretion of fæcal material just above the stricture. During the last twenty-four hours the child had had diarrhœa. A catheter had been passed some ten inches into the bowel, and a partially successful attempt made to break up the hard mass. He had brought the case before the Section with a view to gleaning what had better be done. His own feeling would be to put in something and divulse the stricture.

Dr. C. B. Kelsey called attention to the fact that the child had already been operated upon unsuccessfully. If this were done again, the condition of things would probably not be changed. It was very easy to put in a blunt-pointed bistoury, divide the septum, separating the anus from the cavity of the rectum, and thereby give immediate relief; but this would not be permanent. Mere incision and subsequent dilatation would be futile. A more radical operation was called for.

That which offered the most promising results was a complete circular resection of the thickened tissues and the drawing down of the gut from above and joining it to the skin below. If the stricture was too high to admit of the drawing down of healthy rectum to the healthy skin, then it was usual to excise a portion of the coccyx. He would advise an early operation. It would have been better to have it done immediately after birth. If the operation did not succeed, there was still left an inguinal colotomy. The time had gone by when a child was to be relegated to the grave rather than make for it an artificial anus. If the necessary care was taken to insure regularity of the bowels, the condition was by no means an insupportable one. He believed that inguinal colotomy was the best operation at birth in a very large number of cases.

Congenital Hydrocephalus without Enlargement of the Head.—The Chairman presented a brain removed from a child, who had died at the age of three weeks, in which a very marked degree of hydrocephalus existed, the head, however, being of normal size. The lateral ventricles were much dilated and contained six ounces of fluid. The brain outside was a mere shell. Spina bifida also existed. Death was caused by suppuration in the spina-bifida sac, which had extended upward along the whole cerebro-spinal axis. No operation had been performed.

This was the second case this year in which an autopsy had revealed this condition without enlargement. There was no history of blood disease in the case just reported, and the child had died of acute empyema.

A Study of One Hundred Cases of Pneumonia in Children.—Dr. W. L. Stowell read a paper with this title.

Dr. Francis Delafield said that it seemed necessary to have a well-defined idea of the kind of pneumonia under consideration—whether it was a broncho-pneumonia or croupous pneumonia. He thought the difference well marked, not because there was bronchitis in the one and not in the other, because, as a matter of fact, bronchitis, to a greater or less extent, was present in all forms of pneumonia; not because of the consolidation of a portion of a lobe in the one and of an entire lobe in another, for consolidation of the whole of one or more lobes was common enough. The real difficulty seemed to lie in the character of the inflammatory processes. Croupous pneumonia appeared to be an exudative inflammation in which the blood-vessels alone were concerned, the affected portion of the lung becoming infiltrated with serum, fibrin, and pus. These inflammatory products were, if the case was of moderate severity, absorbed, and after a time the site of the inflammation became practically in the same condition as before the attack. Broncho-pneumonia was, however, quite different. It was an inflammation with the formation of new connective tissue in the walls of the bronchi and air vesicles surrounding the inflamed parts. The inflammatory processes were likely to last a long time, it was much more difficult for the tissues to return to their normal state, and there was great probability of a subacute or chronic inflammatory condition being left. Broncho-pneumonia was the characteristic variety in young children, though the croupous form did occur. In adults the opposite was the rule, while in the intermediate ages a greater variety was met with. As to whether alcohol was likely to further or to hinder recovery, he had, he said, a very strong objection to giving alcohol to children under five years of age. For adults he was in the habit of ordering it, when indicated, in very large quantities. He had never seen a child with pneumonia take alcohol without, in his opinion, being the worse for it. The question of the advisability of antipyretics in pneumonia must be subdivided—on the one hand, whether they should be given to secure greater comfort to the children or with a view to lessen their chances of dying. He did not believe they had much effect on the mortality, unless given in unreasonably large quantities. They might be used in small doses for the purpose of promoting comfort, and he thought that children bore the disease better by reason of their use. He looked upon an abortive case as an acute inflammatory process running a short course. He had never been able to believe that these short cases were short as the result of treatment.

Dr. J. E. WINTERS thought croupous pneumonia comparatively frequent in children. He thought the majority of physicians would admit that they saw very little broncho-pneumonia in private practice. It was likely to occur in certain epidemics of pertussis and of measles. When one saw cases of circumscribed consolidation of the lung in infants, running a rapid course and terminating in recovery, these might be put down as being cases of croupous or lobar pneumonia. His views on the subject of alcohol in croupous pneumonia were the same as those of Dr. Delafield. As to antipyretics, it was not often that the temperature in lobar pneumonia needed any interference. If an attempt was made to reduce the temperature in broncho-pneumonia, more harm than good would be done. As to aborting the attacks, he had seen a great many of these cases in which it was stated that the attack had been aborted. It was a question whether these were cases of pneumonia at all. Certainly it was possible to find cases of an inflammatory process with some exudation which would terminate in from forty-two to seventy-two hours, but such were rare. A child with some disturbance in the alimentary canal, with a cold added thereto, would soon get up a high temperature and exhibit many of the signs indicative of pneumonia. After the use of medicines acting upon the intestines and skin, the symptoms disappeared and nobody could say whether pneumonia had existed or not.

Dr. J. L. SMITH said he thought it convenient to recognize three forms of pneumonia in children: (1) catarrhal or bronchial, (2) croupous, and (3) hypostatic. He thought that the first-named might be aborted. He was surprised to hear Dr. Delafield's views on alcohol. He thought its medicinal value unquestionable. Of course, like any other medicine, it would be harmful in over-doses.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Fifteenth Annual Meeting, held in Buffalo, September 16, 17, and 18, 1890.

The President, Dr. JOHN P. REYNOLDS, of Boston, in the Chair.

(*Continued from page 441.*)

The Question of Amperage in the Treatment of Fibroid Tumors by Electricity was the title of a paper by Dr. W. C. FORD, of Utica, N. Y. Myomatous growths, he said, were easily managed by galvanism. They were of comparatively low resistance, a very large and hard one offering but 300 ohms. The question had been asked, What happened when the current passed through a fibroid mass? Simply the separation of the fluids in this mass and their re-formation into different chemical combinations, that interfered with the intra-uterine existence of the growth. This was merely a process of electrolysis. The current necessary to produce this electrolysis was not one of tension, but of volume or quantity, and this depended entirely on the cell used. The small bichromate-of-potassium battery with a single plate of zinc and carbon, so much in use, unless a very large number of cells was employed, did not give sufficient volume, and had not sufficient ampèrage to effect the necessary electrolysis, but by using a larger cell, having a zinc plate between two good-sized carbon plates, say seven by two, we got a greater surface exposed for chemical action, and hence a greater volume or ampèrage of current, which afforded sufficient electrolytic action to decompose the fluids of the fibroid tumor and arrest its growth; but with high tension and low ampèrage, as in the small-cell battery, this result could not be accomplished without employing a great number of cells. The latter had an electro-chemical action or cauterizing action, while the former produced simple electrolysis.

The author used the negative or active electrode in the uterus, and the positive electrode externally over the abdominal wall. His uterine electrode consisted of a pure platinum needle with a blunt end, like Apostoli's needle. He had also used the gas-carbon electrode. For an abdominal electrode, a plate of copper covered with punk was substituted for Apostoli's clay electrode. The plates were of all sizes. The fluids of the tumor decomposed at the internal, negative, electrode and bubble up and run out over the electrode in sufficient quantity to be caught in a spoon speculum, after a few minutes' application, if the current had the proper ampèrage. The author had accomplished this with a battery of fifteen of the large bichromate-of potassium cells referred to. The fluid of the tumor had an intense chlorine smell and was strongly alkaline. The current was well distributed by the abdominal electrode, and there was no risk of blistering the abdomen, as there was absolutely no cauterization produced. The author was convinced that the cure of these fibroids by electricity could be brought about in no other way than by having a sufficient volume of electricity carried by the electrode to produce perfect electrolysis.

Dr. TREMAINE, of Buffalo, had not been able to obviate intra-uterine cauterization even with a very mild current, and after an experience of sixteen cases he was rather disappointed with the electrical treatment. He believed the actual value of Apostoli's treatment of fibroids was still *sub judice*, and raised the question as to what became of the abdominal walls and other thin tissues; if the electrolytic action, which passed through them to get at the tumor, was sufficient to completely decompose and dissipate the tumor, why these tissues were not also decomposed.

Dr. SKENE believed there was a certain amount of electrolysis going on in the abdominal walls and in the tissue intervening between them and the fibroid tumor, but that they remained intact while the tumor was dissipated, for the reason that it was of lower vitality and could not resist the decomposing action of the current. Even if the normal tissues did sustain a certain electrolytic action, their great vitality enabled them to soon regain their original condition, while the fibroid did not. He did not believe that cauterization was ever necessary to stop the growth of the tumor, and that in avoiding it all the dangers of electrolysis would be obviated. He would never carry electrolysis to the point of cauterization. He believed that electrolysis with the positive pole in the cavity of the uterus produced stenosis, and that it could be avoided by the use of the negative pole. Very few cases could ever be said to be cured in the sense that the tumor entirely disappeared; but if we limited the word cure to mean an arrest of the growth, in that sense many had been cured. In many cases the tumor had been very much diminished in size and the symptoms had been cured, which might be called "symptomatic cure." He thought that Apostoli meant to be honest, but, like all other enthusiasts, he was inclined to overestimate his work, but in the main he was correct.

Dr. H. P. C. Wilson, of Baltimore, believed that for violent bleeding myomata the carbon uterine electrode was the proper one, and he much preferred it to the platinum electrode; that electricity was not applicable to intra-uterine pedunculated myomata, or subperitoneal pedunculated myomata, or soft œdematous myomata; but that the intramural form could be cured in the sense referred to by Dr. Skene. He believed that much of the dissatisfaction with the use of the electrical treatment was due to the fact that operators were too sanguine and used electricity for all kinds of tumors when it should only be used in selected cases.

Dr. H. Mynter, of Buffalo, called attention to Dr. Ford's statement in regard to the difference between electrolytic action and electro-chemical action, the former being produced by a moderate number of cells with a large surface and low intensity, while the latter was caused by the application of a battery of very small cells having a very high tension, and thought that perhaps the diversity of opinion in regard to electricity was due to the fact that many who administered it did not have the proper battery. He was also convinced that the electro-chemical action frequently caused sloughing.

Dr. George Keith, of Edinburgh, emphasized the importance of first making a correct diagnosis and then proceeding to treatment.

Dr. Rosebrugh, of Hamilton, Ontario, asked whether in the cases alleged to be cured there had been any other form of medication, such as with ergot employed conjointly with electricity.

Dr. Wilson had used no medication except enough to regulate the bowels and nervous system with bromide of potassium, etc. He considered ergot absolutely worthless in fibroids.

Dr. Ford had never found that the soft œdematous fibroids would not yield to electricity, but in the very hard ones he had found it necessary to cauterize in order to make any impression on them.

Dr. Gehrung, of St. Louis, believed that better results would be obtained by puncture, where it was admissible, than by treating the tumor through the walls of the uterus, and that the large exudation tumors filling the pelvic cavity and firmly adherent to all the pelvic organs—where any operation was impossible—could be treated successfully by puncture and electrolysis. He used the trocar-electrode and double cannula, with two tubes attached, through which, by the use of the aspirator, he could wash out the cavities of the tumor if it was a cystic one.

Dr. Skene thought that ergot was only useful in submucous uterine tumors with a tendency to become pedunculated, or those that were undergoing a natural process of elimination—cases which did not call for electrolysis. In cases of bleeding fibroids he would remove a portion of the hypertrophied mucous membrane of the uterus to control hæmorrhage; then apply iodine to the mucous membrane, which acted as a disinfectant; and then electricity. In cases where the hæmorrhage was not severe he would use ordinary disinfectants, but in obstinate cases he believed that *Hydrastis canadensis* was valuable and that it had a beneficial effect on the mucous membrane of the uterus. He frequently used it in connection with curetting, iodine, and electricity.

Vaginal Fixation of the Stump in Abdominal Hysterectomy.—Dr. Henry T. Byford, of Chicago, presented a paper as a supplement to one written by him a year before, in which a certain operative procedure was recommended. Extended experience had shown the advisability of making some changes in the details of the operation, particularly in the fixation of the stump. The characteristic steps of the operation as now performed were as follows: Ligate the broad ligaments; separate the bladder from the cervix; put on a temporary elastic ligature below the tumor; transfix and cut off the mass above; ligate the stump in several parts with silk; remove the elastic ligature; perforate the anterior vaginal wall in front of the cervix; turn the stump forward into the vagina, and clamp it firmly there; sew the peritoneal edge, that was separated along with the bladder from the anterior surface of the uterus, to the posterior surface of the stump, so as to close off the peritoneal cavity from the vagina; close the ventral incision, with or without toilet and drainage, as in other cases. A small piece of iodoform gauze stuffed from below into the rent in the anterior vaginal wall, and left for twenty-four to thirty-six hours, might be useful in preventing any possible accumulation of discharge at that point. The time occupied in separating the bladder and the anterior vaginal wall from the cervix and putting on the clamp-forceps should not be greater than for adjustment of the stump in ventral fixation. The other steps were practically the same. Bladder wounds could be treated extraperitoneally, without displacement of the viscus.

Dr. Byford reported eight cases, one of which had resulted fatally, but this result could not be attributed to the operation. In the others, the shortened upper end of the stump had worked its way back into the connective tissue behind the bladder, so that in a few weeks the os and cervical canal were normal as to position and mobility.

Vaginal Fixation of the Stump after Myomectomy.—Dr. Howard Kelly, of Baltimore, would divide fibroids into four classes: 1. Those that were pedunculated and intra-uterine, which could be removed from the cervix. 2. Those that could be removed through the abdominal wall by myomectomy without removing any substantial portion of the uterus. 3. Those with a distinct pedicle, which could be removed by supra-vaginal hysterectomy; also those in which a pedicle could be formed, but where it was necessary to cut under the tubes and ovaries and through the broad ligament to get at it. 4. Atypical cases, where the tumor was spread out laterally in the broad ligament, almost filling the pelvis, where it was impossible to make a pedicle, and the patient usually died from hæmorrhage and shock. These latter cases could not be treated by section, which was limited to cases with a distinct pedicle; and there was no well-defined method of treatment for them. In treating these fibroids, one must consider first that there was a very large, fleshy pedicle, the ligating of which controlled the hæmorrhage at the time of operation, but that it might bleed profusely after it had been dropped back into the abdominal cavity, and thus prove a source of contamination. He compared Hegar's method of treatment—the extraperitoneal—and its modification by Zweifel; Schroeder's—the intraperitoneal; his own—a modification of the two; and Dr. Byford's. The first had had such a death-rate that it had been abandoned, but subsequently rendered legitimate by Zweifel, who performed it with more care. Hegar's method of allowing the stump to slough off he considered as unsurgical a procedure as to tie a string around the finger and allow it to slough off. It was also very difficult where the stump was short. To overcome this difficulty, he had adopted the plan of suturing the stump with buried and superficial sutures and suspending it in the lower angle of the abdominal incision. A square pad of iodoform gauze was placed over the external end of the stump, through a hole in the middle of which the sutures, left with long ends, were drawn and could be grasped with the forceps at any time in case of accident, thus giving complete control of the stump. This had stood the test of nine cases with but one death, which had been due to vascular lesions. Dr. Byford's method was good for the smaller tumors, but it would be very difficult to deal with a broad pedicle by it. It had the advantage of avoiding the risk of hernia which followed from suspension of the tumor in the angle of the abdominal wound, and also afforded excellent drainage.

Dr. William M. Polk, of New York, referred to the fourth class of tumors mentioned by Dr. Kelly, which he treated by a plan that was a modification of the one suggested by Dr. Miner, of Buffalo, in the treatment of non-pedunculated ovarian tumors —a process of complete enucleation. He would ligate the uterine artery, and in some cases where there was a good deal of hæmorrhage from the posterior wall he thought it advisable to cut down and ligate the utero-sacral ligament on either side, in order to control the hæmorrhage. He burned a hole with the cautery through the cervical canal, burning the tissues well around the hole, after which the cavity was packed with a long strip of iodoform gauze, which was brought out of the opening, and the abdominal incision was closed in the ordinary manner adopted in the treatment of ovarian tumors that were enucleated in a like manner, thus affording complete disinfection of the cervix.

Dr. E. C. Dudley, of Chicago, had performed Byford's operation in two cases with perfect success, with a simple modification in the packing of iodoform gauze.

Dr. A. J. C. Skene, of Brooklyn, thought that Byford's method was only adapted to cases where the stump was small. He believed that complete removal of the cervix might be substituted for Byford's operation, also in dilatation of the cervix and complete inversion of the same. Before adopting Byford's method the relative value of these other two methods should be ascertained.

Dr. Dudley had tried inversion of the stump, and found it exceedingly difficult and almost impossible to accomplish, no matter how much dilatation was used. He had also attempted the removal of the entire stump by applying the lock forceps through the vagina to secure hæmostasis, but believed it a very difficult and not very practicable operation. Dr. Byford's method should be adopted in all cases of large fibromata which completely filled the uterus and spread out into the broad ligament, especially if the size of the cervix was reduced by the cautery, as spoken of by Dr. Polk. The vagina was quite capacious and would hold a pretty large stump.

Dr. Joseph Taber Johnson, of Washington, had successfully performed five operations by the Bantock method. He thought it was better to have a long convalescence caused by the sloughing off of the stump in this operation than to try some other operation and have no recovery at all. He believed the method referred to by Dr. Skene of the complete removal of the infected stump, providing proper drainage, would be the ideal method.

Dr. Polk agreed with Dr. Dudley that the operation for the complete removal of the uterus and cervix by applying clamps through the vagina to control hæmorrhage was a very difficult and unsatisfactory operation, and was inferior to the complete removal of the uterus by the use of the ligature, notwithstanding the fact that in some cases where the cervix was deep that operation was prolonged by a good deal of bleeding. Dr. Byford's method had the advantage of simplifying and shortening the operation. Another method suggested about the same time, or since Dr. Byford's, that accomplished about the same end, was that in which, after the stump was cut off and the bladder dissected away, instead of making an opening into the vagina, with one blade of the scissors in the cervix and the other outside, the cervix could be cut down into the vagina and the mass turned inside out, on the same principle as in the Porro operation.

Dr. Kelly believed there was still another class of cases in which hæmorrhage could not be controlled by the methods described by Dr. Polk and others, and for those cases he had devised a corrugated uterine sound by which he could discover the relative position of the uterine arteries when they were displaced, and in that way control the hæmorrhage. These tumors, no matter how large, seldom reached to the ovarian arteries and veins at their points of emergence from the abdominal aorta, and he would in cases of excessive hæmorrhage tie these arteries and veins in the abdominal cavity, and in desperate cases, where it was impossible to get the tumor out, he would adopt the heroic treatment of temporarily compressing the abdominal aorta; and he was convinced that there was a certain class of cases that could not be treated in any other way. In his own operation, if there was any oozing after the stump was sutured, he ligated the uterine arteries, and had always succeeded in checking any hæmorrhage that might have occurred. Bantock's operation was fitted only for cases of pedunculated fibroids, and, if it was applied strictly to such cases, the mortality should be *nil.*

Dr. J. C. Temple, of Toronto, agreed with Dr. Skene that removal of the entire mass was the most rational procedure. He did not believe in the inversion of the mass through the dilated cervix, as he had found it a most difficult method. Dr. Byford's plan was a good one in selected cases where it was not desired to remove the whole of the tumor.

Injuries to the Ureters during Labor was the title of a paper by Dr. A. J. C. Skene, of Brooklyn. The writer stated that he had attended many cases in both hospital and private practice that differed from the puerperal diseases recorded in obstetrical literature. He had been led to believe that the symptoms he had observed were due to injury to the ureters. The patients had usually been primiparæ or had had many children; the labor had been tedious, instrumental, or manual, and the progress after delivery satisfactory or fairly so. The lochial discharge and the secretion of milk had been normal, and the bowels and the kidneys apparently normal. In some cases there was retention of urine or frequent and painful urination. Pelvic pain and tenderness in the lower part of the abdomen were present, but were not always severe at first. These symptoms became more acute after a time, the pain and tenderness increased rather abruptly, and a chill might occur at this time. Distention of the bowels took place, and the temperature and the pulse-rate increased. Pressure showed increased tenderness, and bimanual manipulation of the kidney on the affected side usually produced a sense of distress rather than of acute pain. An increase in the severity of the symptoms supervened in from three to five days, and soon thereafter a quantity of pus, and sometimes blood, appeared in the urine. The patient was generally relieved to some extent when the discharge of pus began; the pain was less and the temperature and pulse-rate were reduced a little. In connection with pus and blood, renal casts might be found. The pus continued to be discharged, but in diminished quantity, for a week or more. The bleeding generally subsided in a day or so, and most of the patients recovered. In some other cases acute disease of the kidneys appeared about the time that pus began to be discharged from the bladder; uræmia followed, and sometimes uræmic coma. Such cases usually terminated fatally, although recovery might take place. In most instances there was not a pre-existing renal disease.

The diagnosis of injury to the ureter must be made by the exclusion of the more common puerperal affections—such as peritonitis, cellulitis, general septicæmia, cellular abscess, and cystitis. If there was a metro-cellulitis following injury to the cervix uteri, the ureters became affected secondarily, and the symptoms developed in reverse order.

The following was a convenient classification of diseases and injuries of the ureters: 1. Injuries of the ureters during labor. 2. Obstructions to the ureters secondary to pelvic inflammations. 3. Obstructions due to neoplasms and uterine displacements. The second and third were taken from Engelmann.

Injuries to the ureters might be avoided in great measure. Care to dilate before rupture of the membranes, the proper use of the forceps, and having the patient in the best possible physical condition, were essential as prophylactics.

The treatment was in great measure expectant. The surgical treatment of these affections was not in a highly developed state.

Incontinence of Urine due to Malposition of the Ureter was the title of a paper by Dr. F. H. Davenport, of Boston. This was a report of a case in which a woman of twenty-nine years had suffered all her life from incontinence of urine. A careful examination showed that one ureter, instead of opening as usual into the bladder, was continued along in the septum between the bladder and the vagina, and emptied by a special opening near the meatus. An operation to establish a proper opening into the bladder was clearly the only hope of relief. This was performed, but a subsequent retraction of the vesical end of the ureter had made a second operation necessary. The latter had been successful.

Dr. W. W. Jaggard, of Chicago, thought that injuries to the ureters were quite common during pregnancy, and that those existing before pregnancy might become intensified, but that they were not common during labor, as at that time the bladder was drawn up into the abdominal cavity and the ureters were out of the way of the pressure from the head of the child; that they were rarely injured by the dilatation of the cervix or the application of the forceps before the engagement of the head. In 1878 a German observer had called attention to compression or dilatation of the ureters as a cause of eclampsia, and Morgagni had noticed the same thing. The speaker had seen one case where compression was believed to be the principal cause of eclampsia. Recent anatomical investigations with frozen sections of women who had died early and late in the puerperium, particularly in cases of difficult labor, had demonstrated that the bladder was then an abdominal and not a pelvic organ. Among the causes specially operative in producing injury of the ureters during pregnancy he mentioned: 1. Increased abdominal tension. 2. The presence of small ureteral calculi. He had seen two cases in which calculi were probably the cause of a dilated ureter. He believed that palpation of the ureters during the puerperium was extremely hazardous, productive of no good, and entirely a work of supererogation.

Dr. A. W. Johnstone, of Danville, Ky., related a fatal case of injury to the ureter after laparotomy for multilocular ovarian cyst, where furious mania was developed forty-eight hours after the operation. The tumor pressed on the ureter just where it passed over the pelvic brim, and from that point up to the kidney it was so enlarged that it would admit the finger; there was purulent inflammation of the ureter and hilum of the kidney, and the kidney itself was seriously disorganized. The lower portion of the ureter was normal. He believed that many of the cases of mania after laparotomy were due to some such condition as this. Tuberculosis was a very frequent disease of the ureters, and had been noticed in a young girl who was supposed to be dying of phthisis, who presented no complication of the lung whatever, but had all the symptoms of tuberculosis. The post-mortem revealed the bladder, the ureters, the hilum of the kidney, and the kidney itself studded with miliary tubercles. The ureters were a frequent source of trouble, and should not be overlooked in gynæcological work.

Dr. Henry T. Byford, of Chicago, thought that in many cases of pelvic disease death was due to ureteral trouble, such as uræmic convulsions, etc., although they were generally attributed to the earlier disease which caused the ureteral trouble. Catheterism of the ureter was difficult and required a practiced hand, but it was unreasonable to doubt that it could be done.

Is the Mortality after Gynæcological Operations affected by Climatic Influences?—Dr. Henry C. Coe, of New York, read a paper on this subject. The conclusions that he had drawn, after a most careful analysis of his own cases and extended inquiry in regard to the cases of others, were against the belief that season had any influence in the way of affecting the mortality rate after gynæcological operations.

Cephalæmatoma.—In a paper on this subject Dr. Howard A. Kelly, of Baltimore, stated that this disease occurred once in every two hundred and fifty obstetric cases, but that it was rarely recognized by the general practitioner. Cephalæmatoma was a well-defined lesion, running a brief, definite course, tending, as a rule, toward resolution, but capable of seriously affecting the health, or even implicating the life, of the child.

A cephalæmatoma was usually resolved by absorption, and it was wise to wait for two or three weeks. If absorption did not take place, extirpation was indicated.

Dr. Jaggard believed that external cephalæmatoma occurred in many labors and healed spontaneously, attracting little or no attention. The internal variety, where the tumor was between the inner layer of the periosteum and the bone, sometimes caused strabismus and death; it was not difficult to diagnosticate, but usually difficult to cure. He was of the opinion that injury was always the cause of these tumors, and that it occurred during labor by reason of the stretching of the periosteum downward and rupture of its blood-vessels, or by reason of the bringing together of the bones of the fœtal head by the application of the forceps. It was essentially traumatic, and occurred in a slight degree in many labors, but reached a perceptible size in about the proportion stated by Dr. Kelly. It was nearly as frequent in the after-coming-head and transverse presentations as when the vertex presented.

Dr. Fredericks, of Buffalo, reported three cases of cephalæmatoma.

Dr. Kelly was convinced that these tumors were not the result of traumatism from severe labors or instrumental deliveries, being most frequently observed after simple and easy labors. They had been detected on the head of the child before birth, on the head of a five or six months' fœtus, and in one case on the head of a child born by Cæsarean section; all of which would lead him to believe that there must be some predisposing cause that was not as yet understood.

Drainage after Laparotomy.—Dr. Thomas A. Ashby, of Baltimore, read a paper thus entitled, in which he advocated using drainage for the purpose of disposing of the products of intrapelvic operations, etc. He maintained that when drainage was employed there was a lower temperature, less tympanites, and less gastric disturbance. The abdomen should be washed out every few hours.

Dr. A. Palmer Dudley, of New York, in a series of seventy-nine cases of abdominal section, including eight hysterectomies, one Cæsarean section, two cases of extra-uterine pregnancy, and five cases of pyosalpinx, had used the drainage-tube in but two cases (of fibroids), and both patients had died on the eighth day—the first from a circumscribed abscess of the omentum without general peritonitis, and the second from intestinal obstruction caused by adhesion of the intestines around the tube. Sixty-nine of these abdominal sections had been made without the use of a drainage-tube and without a death, although in many of them there had been a large quantity of fluid. The drainage-tube should be used only under two conditions: 1. Where there was general peritonitis and hæmorrhage was suspected. 2. Where the peritonæum was congested from a recent peritonitis and bled if irritated with a sponge. Under all other conditions the proper toilette of the peritoneal cavity before closing the abdomen would accomplish more than any drainage-tube. The drainage-tube was dangerous in the hands of those who thought they could accomplish with it what they should have done before closing the cavity. The dangers of the drainage-tube were: 1. Intestinal adhesions from the exudation of lymph around the tube. 2. Fæcal fistula. 3. Occasionally, hernia. Where there was sufficiently grave septic inflammation in the pelvic cavity to endanger life, the tube was useless, as it very soon became walled in by a rapidly forming lymph cavity and cut off from the pus that was collecting around it. The success of the laparotomists was due to great care in the toilette of the peritonæum. He had great faith in washing out the abdominal cavity with a stream of hot water. The greater drainage-tube—the intestinal tract—he took advantage of by the administration of saline cathartics just before an operation, and the vermicular action of the intestines still went on after the operation and afforded ample drainage, especially in cases of intestinal fistula. This, together with the use of hot water and careful closure of the peritoneal cavity, was safer and better than any form of drainage-tube.

Dr. E. C. Dudley, of Chicago, referred to the inadequacy of the ordinary glass drainage-tube for extensive drainage on account of its being surrounded in a few hours by the agglutinated surfaces of the peritonæum, and believed that the system of drainage devised by Michaelis, which consisted in packing the part to be drained with iodoform gauze, was a good one, and that the mistake most frequently made was in removing the gauze too soon, causing the adhesions around the gauze to break, with subsequent infection of the peritoneal cavity. He would use this system of drainage in all bad cases where there was a large surface to be drained; but, where there was doubt as to the necessity of drainage, the trial of the glass tube would serve to indicate or contra-indicate the necessity of more extensive drainage by the application of Michaelis's dressing.

Dr. H. P. C. Wilson, of Baltimore, agreed with Dr. Dudley that the glass drainage-tube was utterly inadequate to drain large surfaces, and that the Michaelis drainage was an excellent one. He referred to the frequency with which some of the European operators, Bantock and others, used the drainage-tube, the latter saying that he always felt safer when he had in a drainage-tube.

Dr. M. D. Mann, of Buffalo, thought the drainage-tube was used too much. He had almost abandoned it, and if he did use it he always felt uneasy while it was in; unless it was watched with the greatest care, very great harm might result from it; he never used it where it was possible to do without it. He would reverse the rule, "When you are in doubt, drain," and say, "When you are in doubt, wait;" don't close the abdomen too quickly unless there is great shock; put in a sponge and use hot-water irrigation, and very frequently the hæmorrhage will stop, and the abdomen may be closed without the necessity of drainage. He agreed with Dr. A. P. Dudley that drainage by the intestines was an excellent plan. He starved his patients for forty-eight hours, giving them only a little water to moisten their lips, and, by thus depriving the system of fluids, a great call was made on the lymphatics, which would take up the effused serum from the abdomen much more safely than any tube.

Book Notices.

Beiträge zur Augenheilkunde. Von Professor R. Deutschmann, in Hamburg. 1. Heft, mit 10 Abbildungen in Text. Hamburg und Leipzig: Leopold Voss, 1890. Pp. 80.

This little brochure is the first part of a series of observations on certain rare forms of disease of the eyes which have been met with in the experience of the author. The first article is a somewhat lengthy one upon the value of antiseptic procedures in the treatment of injuries of the eye. The second article consists of remarks upon the pathology of the optic nerve, with special reference to the entrance of the optic nerve into the eyeball. The third gives an account of an interesting case of homonymous hemianopsia following injury to the skull. The fourth gives an account of a very rare case of amaurosis due to self-infection from carcinoma of the stomach. The fifth is an interesting recital of the microscopic appearances of a rare form of detachment of the retina. The brochure ends with a discussion on some rare forms of ocular tumors, with microscopical examinations. Some of the articles are illustrated, and all may be read with profit. The little book is an interesting contribution to ophthalmological literature.

Hystéropexie abdominale antérieure et opérations sus-pubiennes dans les rétrodéviations de l'utérus. Par Marcel Baudouin. Avec vingt-deux figures dans le texte. Paris: Lecrosnier et Babé, 1890. Pp. x-414. [Publications du *Progrès médical.*]

Hysteropexia is the term proposed by Trélat for the operation performed by Kœberlé, in 1869, of gastrotomy with permanent fixation of the uterus to the abdominal wall. Of the various operations, the author prefers that proposed by Dr. T. Gaillard Thomas. Hysteropexia is held to be indicated in all cases of adherent or severe retroversions or retroflexions, in some cases of inversion and of prolapsus, and in grave retroversion of the gravid uterus. The danger of the operation is slight, unless there are numerous and resistant adhesions. The book is well written, and contains excellent tables of the reported cases of this operation and an extensive bibliography.

Ruptures des tendons sus- et sous-rotuliens. Traitement par la suture. Par Hervé, Docteur en médecine de la Faculté de Paris. Paris: Henri Jouve, 1890. Pp. 5 to 88.

The author finds that Ruysch, in 1720, first reported a case of rupture of the quadriceps tendon, and concludes, from a study of the published cases, that ruptures of that tendon above or below the patella are susceptible of successful surgical interference. Suture is equally indicated in recent and in old cases, and especially where there is considerable separation of the torn extremities. The operation of suturing, performed antiseptically, is not dangerous and permits of a more rapid and certain recovery of usefulness of the limb than immobilization does. The monograph is a valuable contribution to the literature of the subject.

Chronic Urethritis and Other Affections of the Genito-urinary Organs. Three Lectures delivered at the Royal College of Surgeons, in June, 1889. By Matthew Berkeley Hill,

M. B. Lond., F. R. C. S., etc. With Colored Plates from Drawings by Frank Collins, M. R. C. S., L. R. C. P. London: H. K. Lewis, 1890. Pp. viii–47.

The author of this little work has collected together some of the principal methods of treating chronic urethral discharges now in vogue. He is a close follower of Grünfeld in the use of the urethroscope, and agrees with Otis concerning urethral caliber. The book contains some excellent lithographs of the urethroscopic field and a chapter of interest on tuberculosis of the prostate, but the attempt is made to cover entirely too much ground in so limited a space.

The Intestinal Diseases of Infancy and Childhood. Physiology, Hygiene, Pathology, and Therapeutics. By A. Jacobi, M. D., etc. Vols. I and II. Second Edition. Detroit: George S. Davis, 1890. [The Physician's Leisure Library.]

The first of these little volumes is devoted largely to the subject of infant feeding, and is an exposition of the author's well-known views upon that subject. The fact that the hygiene of infants concerns the digestive organs mainly gives abundant reason for assigning to that subject so large a share of a work on intestinal diseases. The section on dentition is a judicious review of that much-discussed subject, and is especially good. On the whole, the book is eminently practical and a thoroughly good one for the general practitioner, for whom it is designed.

Protoplasm and Life. Two Biological Essays. By Charles F. Cox, M. A. New York: N. D. C. Hodges, 1890. Pp. 3 to 67.

These essays on the cell doctrine and the theory of spontaneous generation are very carefully written, including in their scope a general survey of the more recent utterances on these subjects. The author concludes that the general theory of evolution is still in the stage of hypothesis, and that the "missing link" is in the gap between inorganic and organic substances.

A Natural Method of Physical Training, making Muscle and reducing Flesh without Dieting or Apparatus. By Edwin Checkley. Third Edition. Fully illustrated from Photographs taken especially for this Treatise. Brooklyn: William C. Bryant & Co., 1890. Pp. 4–7 to 152.

The author seeks to popularize a plan of muscle-training independent of apparatus. But will not the "something or other always interfering with that half hour at the machine" defer in like manner the application of Mr. Checkley's system? However, this would have nothing to do with the efficacy of the method proposed; that would, if regularly followed, undoubtedly increase muscular tone. Physicians are notoriously sedentary as a class, and, while they may not always agree with Mr. Checkley in his theories, they will undoubtedly commend the general scope of his work.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Modern Surgery: an Exposition of the Accepted Doc-rines and Approved Operative Procedures of the Present Time. For he Use of Students and Practitioners. By John B. Roberts, A. M., M. D., Professor of Surgery in the Woman's Medical College of Pennsylvania, etc. With Five Hundred and One Illustrations. Philadelphia: Lea Brothers & Co., 1890. Pp. xvi–33 to 800. [Price, $4.50.]

Epilepsy; its Pathology and Treatment. Being an Essay to which was awarded a Prize of Four Thousand Francs by the Académie Royale de Médecine de Belgique, December 31, 1889. By Hobart Amory Hare, M. D., Clinical Professor of Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc. Philadelphia: F. A. Davis, 1890. Pp. 228.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children, Bellevue Hospital Medical College, etc. Seventh Edition, thoroughly revised. With Fifty-one Illustrations. Philadelphia: Lea Brothers & Co., 1890. Pp. xiv–33 to 900. [Price, $4.50.]

Ointments and Oleates especially in Diseases of the Skin. By John V. Shoemaker, A. M., M. D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-chirurgical College of Philadelphia, etc. Second Edition, revised and enlarged. Philadelphia: F. A. Davis, 1890. Pp. ix–298.

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A. M., M. D., Professor of Chemistry and Physics in the University of the City of New York, etc. Third Edition. New York: William Wood & Co., 1890. Pp. xii–528.

Bacteriological Technology for Physicians. With Seventy-two Figures in the Text. By Dr. C. J. Salomonsen. Authorized Translation from the Second Revised Danish Edition. By William Trelease. New York: William Wood & Co., 1890. Pp. 162.

Transactions of the American Surgical Association. Volume the Eighth. Edited by J. Ewing Mears, M. D., Recorder of the Association.

A Digest of Current Orders and Decisions, with Extracts from Army Regulations, relating to the Medical Corps of the U. S. Army, Compiled under Direction of the Surgeon-General by Charles R. Greenleaf, Major and Surgeon, U. S. A. Pp. 125.

The Treatment of Syphilis of the Nervous System. (Read before the International Medical Congress at Berlin, August, 1890.) By Julius Althaus, M. D., M. R. C. P. Lond., Senior Physician to the Hospital for Epilepsy and Paralysis, Regent's Park. London: Longmans, Green, & Co., 1890. Pp. 35.

Diagnosis and Operative Treatment of Gunshot Wounds of the Stomach and Intestines. By N. Senn, M. D., Ph. D., of Milwaukee, Wis. (Read by invitation in the Surgical Section of the Tenth International Medical Congress, August 8, 1890.) [Reprinted from the *Journal of the American Medical Association.*]

Transactions of the Michigan State Medical Society. Twenty-fifth Annual Meeting, held in Grand Rapids, June 19 and 20, 1890.

Transactions of the Medical Society of the State of Pennsylvania, at its Fortieth Annual Session, held at Pittsburgh, 1889–'90. Volume XXI. Published by the Society.

Transactions of the Texas State Medical Association. Twenty-second Annual Session, held at Fort Worth, Texas, April 22, 23, 24, and 25, 1890.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. XI. Phædronus—Régent. Pp. 1102.

Acute Myelitis preceded by Acute Optic Neuritis. By J. T. Eskridge, M. D., Denver, Col. [Reprinted from the *Journal of Nervous and Mental Disease.*]

Comparison between Perineal and Suprapubic Cystotomy, with Report of Cases. By A. Vander Veer, M. D., Albany. [Reprinted from the *Albany Medical Annals.*]

The New Treatment of Peritonitis. By Emory Lamphear, M. D., Kansas City, Mo. (Read before the Grand River District Medical Society.)

Electricity *vs.* the Knife in the Treatment of Pelvic Disease. By W. B. Sprague, M. D., Detroit. [Reprinted from the *Proceedings of the Michigan State Medical Society.*]

Description of a Series of Tests for the Detection and Determination of Subnormal Color-Perception (Color-Blindness), designed for Use in Railway Service. By Charles A. Oliver, M. D., of Philadelphia. [Reprinted from the *Transactions of the American Ophthalmological Society.*]

Medical Education. The Address in Medicine, Yale University, 1890. By Francis Delafield, M. D., LL. D., New York. [Reprinted from the *New Englander and Yale Review.*]

Report of Carlos F. MacDonald, M. D., on the Execution by Electricity of William Kemmler, alias John Hart. Presented to the Governor, September 20, 1890.

Medical Communications of the Massachusetts Medical Society. Vol. XV, No. 1, 1890.

Eighth Annual Report of the Provincial Board of Health of Ontario, being for the Year 1889.

A New Method of Suture in Perineorrhaphy. By George M. Edebohls, M. D. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children.*]

Heredity-Criminality, etc., *vs.* Education. By Sophie McClelland, of New York. [Reprinted from the *Medico-legal Journal.*]

Proceedings of the National Conferences of State Boards of Health at the Seventh Annual Meeting, held at Nashville, Tenn., May 19 and 20, 1890.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for October 24th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Oct. 18.	1,646,098	618	.	..	..	..	..	..	14	4	15	7	6
Chicago, Ill.	Oct. 18.	1,100,000	348	..	..	..	..	..	..	22	4	15	1	3
Philadelphia, Pa.	Oct. 11.	1,064,277	322	..	..	..	..	..	..	10	3	14	..	4
Brooklyn, N. Y.	Oct. 18.	880,225	342	..	..	..	..	..	..	5	7	15	..	10
Baltimore, Md.	Oct. 18.	500,343	166	..	..	..	..	..	..	10	..	7	..	4
St. Louis, Mo	Oct. 11.	460,000	144	..	..	..	..	..	..	..	..	..	..	....
St. Louis, Mo.	Oct. 18.	460,000	......	..	..	..	..	..	..	8	..	2	..	....
Boston, Mass	Oct. 18.	446,507	177	..	..	..	..	..	..	8	..	4	..	1
Washington, D. C.	Oct. 14.	250,000	108	..	..	..	..	..	..	7	..	2	..	1
Milwaukee, Wis.	Oct. 8.	220,000	67	..	..	..	..	..	..	..	..	6	..	1
New Orleans, La.	Oct. 11.	216,000	124	..	..	..	..	..	..	1	..	4	..	2
Richmond, Va.	Oct. 11.	100,000	54	..	..	..	..	..	..	5	..	..	..	....
Toledo, Ohio.	Oct. 17.	82,652	22	..	..	..	..	..	..	2	..	..	1	1
Nashville, Tenn	Oct. 18.	76,309	26	..	..	..	..	..	..	2	..	..	..	....
Fall River, Mass.	Oct. 18.	75,000	29	..	..	..	..	..	..	1	..	..	1	....
Manchester, N. H.	Oct. 18.	44,000	......	..	..	..	..	..	..	..	..	..	..	..
Galveston, Texas.	Oct. 3.	40,000	14	..	..	..	..	..	..	1	..	..	..	....
Binghamton, N. Y.	Oct. 18.	35,000	11	..	..	..	..	..	..	1	..	..	..	....
Portland, Me.	Oct. 18.	33,810	12	..	..	..	..	..	..	..	.	..	..	....
Yonkers, N. Y.	Oct. 3.	31,969	11	..	..	..	..	..	..	..	..	..	..	..
Auburn, N. Y.	Oct. 11.	25,887	22	..	..	..	..	..	..	1	..	..	..	....
Newton, Mass.	Oct. 18.	24,375	6	..	..	..	..	..	..	..	..	1	..	....
Newport, R. I.	....	20,000	......	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.	Oct. 11.	16,000	2	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.	Oct. 11.	15,000	2	..	..	..	..	..	..	..	..	..	..	....

Bromidia in the Treatment of Tetanus.—In the *Journal of the American Medical Association* for July 19th there is an account, by Dr. Robert Reyburn and Dr. A. W. Taneil, of Washington, of a case of traumatic tetanus, ending in recovery, in which bromidia was employed. The clinical history was furnished by Dr. Tancil, and Dr. Reyburn added the following remarks:

The case is a typical example of the more chronic variety of traumatic tetanus, and is interesting because it illustrates very well what I believe to be the correct method of treatment of such cases. The reflex action of the great nervous centers, and more especially the spinal cord, is so immensely exaggerated in tetanus that the slightest noise, the exposing the patient to a current of cold air, or even a slight movement of the patient, may develop a fatal spasm either of the muscles of respiration, or some other of the group of muscles which control functions necessary to life. Unfortunately, I have had so much of an experience in this disease from the year 1862 to the present time as to have seen every variety of treatment tried, including all the narcotics and nerve sedatives of the Pharmacopœia, also the continued use of chloroform and ether by inhalation. Anæsthetics, however, while they for a time do seem to modify and control the spasmodic contractions of the muscles, have in my experience never effected a cure. The only treatment that I have found to be reasonably successful is with morphine given in large doses and in combination with bromide of potassium, but in order to do any good with the remedy it must be given in double or triple the ordinary doses and continuously; in other words, you must keep the patient in a condition of semi-narcotism all the time for days or weeks if necessary. In the treatment of this case it was found absolutely necessary to disregard the ordinary rules of dosage and to give with a liberal hand the bromidia in quantities sufficiently large to keep the muscles relaxed. Several times during the early stages of the treatment of the case the attempt was made to diminish the doses of the powerful agents used, but the aggravation of the trismus and the painful and powerful contractions of the muscles of the abdomen and extremities compelled a return to the larger doses. Patients suffering from traumatic tetanus, as a rule, in the cases I have seen, die from violent contractions of the respiratory muscles, which stop respiration, and, of course, they die very suddenly and unexpectedly. Another most important point in the management of these cases is to insist upon the most absolute rest and quiet. The patient is to be placed in the darkest and most secluded corner of the house, away from noise and secure from the well-meant but often fatal kindness of visitors and friends. Many a case has been doing well when the excitement of a strange face or a visit from a friend may bring on a spasm which may instantly prove fatal.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

AN ADDRESS ON THE PRESENT POSITION OF ANTISEPTIC SURGERY.[*]

BY HENRY O. MARCY, A. M., M. D., LL. D.,
BOSTON.

THE treatment of operative wounds has from time immemorial been considered a subject of vital importance in the healing art. In evidence that there is nothing new under the sun, it is now alleged that recent researches demonstrate that the early Greeks were familiar with, and for quite a period at least taught and practiced, what we consider fundamental in modern aseptic wound treatment.

Upon the one hand the philosophic observer holds ever prominent in consideration the, so to speak, *x* factorage of individual type, the vital resistant power. This is subject not alone to modification in the individual—as, for example, by age, physical vigor, surroundings—but is also represented by family type, as heredity, which is easily broadened out in general consideration to climatic influence, race, etc.

On the other hand, we have actively discussed the various changes which are observed to go on in wounds under different conditions seemingly with little profit until within the present generation. There still remain many interesting minor questions of great interest and importance for consideration, and which our present knowledge still affords an inadequate means for definite solution. The ever-present material for infection and the reason of its non-development in a very considerable class of wounds has been accepted by many as sufficient evidence for discarding the conclusions arrived at by the earlier advocates of antiseptic surgery. To many superficial observers it seemed to be sufficiently proved that the entire system was untrustworthy and impracticable. Scientific data were certainly wanting to answer clearly the queries which arose, although in general the reply was made that the vital resistant power of the individual was sufficient to prevent the growth and development of the bacterial infection. Why, when the seed was vitalized and implanted in a culture medium ample to serve as food and retained at an equable temperature, did it not develop? Our laboratory experiments threw no light upon the question, for here, under the conditions given, reproduction was a constant factor. In wounds that were maintained at rest with careful coaptation of the parts to prevent the accumulation of fluids, where the tissues themselves remained comparatively uninjured, it was observed that a rapid proliferation of cell character ensued, which went on undisturbed to the complete restoration of the parts. This in many instances entirely failed, when the surrounding tissues were in a measure devitalized and a bloody or serous exudation had taken place.

In the first instance Nature did not furnish the conditions for the development of the ferments accidentally introduced into the wound, while in the second the developing medium was ample.

The query arose as to what became of the vitalized organism which failed to develop, as well as the reason of the failure. The observations of Metschnikoff upon the power of the leucocytes to surround and destroy, so to speak, to digest the bacteria under favorable circumstances, are now generally known. These observations are of interest as a possible explanation of this hitherto unknown quantity in the problem, the so-called vital resisting power of the tissues, which may vary greatly in individuals. Sir Joseph Lister very properly emphasized this fact in his address before the late International Medical Congress held in Berlin. Although such an important communication, given by such a master, to the medical profession, under the auspices of the great congress, will early be familiar to all, I have reason for briefly referring to it at this time. After giving Metschnikoff's experiments, which demonstrate that the spores of anthrax failed to germinate in the tissues of the green frog, because of the action of the leucocytes, Sir Joseph Lister refers to certain of his own studies which seemed earlier to teach "that a blood-clot within the body may exert a powerful antibacteric agency." How this took place had remained hitherto a mystery. It is certainly demonstrated that in wounds of the first class referred to, while the fluid exudation is minimized and the leucocytes are abundant, septic conditions much more rarely supervene, and the important observations of Metschnikoff, so far as they go, offer a plausible solution of a hitherto unknown resultant condition. It is quite too early to draw general deductions from our present premises and declare that in this the entire solution is found, but there is every reason to believe that this is an important discovery of a power which the organism brings to rescue it under favorable circumstances from impending danger. The practical deduction of the lesson is that we seek to place the wound in such a condition that the phagocytes of Metschnikoff may be made the active allies of the surgeon. All this helps also in a measure to explain the successes which surgeons have obtained by means which seemed directly opposite in their methods of wound treatment.

Let us interrogate a little more closely Nature's processes, which, in a general way, are well known to us all, and ascertain, if we may, the manner of repair which ensues in the minor subcutaneous injuries of every-day life. Here a small blood-clot, located in almost any part of the body, undergoes with considerable rapidity the changes which lead indirectly to its disappearance, and results in a complete restoration of the parts to their normal condition. We find the borders of the blood-clot about the separated tissues invaded by leucocytes, which appropriate for their own further development the material of the exudate; little by little, minute capillary vessels are formed in the line of these invading cells, and the process of clot-disappearance and granulation-tissue development go on *pari passu* until the clot has disappeared and new connective tissue restores the part to its former condition. A small blood-clot in the line of a clean-cut wound, when aseptic, does not materially interfere with the process of repair, and is appropriated, as in the first instance, by the leucocytes or germinating tissue cells. In an open aseptic wound, the granulation tissue which closes it germinates in a similar manner, and the surface, which has the appearance of a clot, readily bleeds upon injury, owing to the lesion of the newly formed capillaries.

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[*] Read at the meeting of the Boston Gynæcological Society, October , 1890.

A somewhat similar series of observations of equal interest and importance are seen to ensue about the ligature of an artery in continuity when the surrounding parts are maintained in an aseptic or healthy condition. Here repair takes place by the host of little workers leading up their forces in different directions. The blood-clots in the extremity of the occluded vessel undergo changes not unlike those already referred to in other locations, while the leucocytes speedily surround and shut in the material used as a ligature, forming a capsule. At an early period this may be lifted away from the thread, more or less distinctly as a layer, and little or no change has taken place in the constricting material, although this may differ very widely in character.

Even when applied to the vessels of very young animals, after a considerable period, the silk ligature is comparatively unchanged. Often at the end of three or four weeks it may be found intact, although firmly shut in by a sheath of new connective-tissue cells.

When the tissues are held at rest, the same general condition may be observed if silk-worm gut or silver wire has been used. After a period of some weeks the silk ligature may have completely disappeared, and the changes which have led up to this are traced in an invasion of leucocytes between the strands and fibers of the silk, slowly separating them and causing their disintegration. If these conditions are interfered with in a mechanical way, this process seems to be held in abeyance.

The cell changes which should go on in the development of connective tissue fail, and then the little army of workmen invade the surrounding tissues, and the processes, earlier called proliferating, ensue, and the constricting material is thrown off as a foreign body. When an aseptic animal ligature has been used, catgut or tendon, and the parts about maintained in a healthy state, the ligature material becomes invaded by leucocytes, which utilize it for their own development, causing it, little by little, to disappear. So marked is this process that an aseptic animal suture, introduced into various parts of a healthy young animal, may for a considerable period be traced by a line of newly developed connective tissue, although not a single vestige of the original material remains. These processes, which I have described at some length, have for a long time been recognized in a general way and accepted, and yet we are all familiar, almost equally so, with the reverse of the picture, where any considerable colony of micrococci develop in the line of a wound.

Here this process may be completely local; that is to say, the leucocytes surround and shut in the invading army with a wall of living granulation cells until, little by little, it is forced to surrender, and a localized abscess is the sum total of damage. The most of us, however, who were surgeons of an earlier day recall the too common and, I am sorry to admit, even at present, not rare experiences in the every-day work of many—the foul suppurating wounds and general systemic poisoning. In such wounds the feeble barriers of leucocytes, thrown up against an invading army, fail to protect the organization, and the much-dreaded "blood poisoning" supervenes.

If it may be accepted, in a general way, that the above descriptions are correct, let us use them as basic and fundamental, from which to draw further conclusions. If we find in the so-called phagocytes of Metschnikoff the familiar leucocytes above mentioned, we certainly have, in a very considerable measure, an explanation of the vital resisting power of the individual organism. If, under favorable circumstances, these cannibalistic little workmen not alone surround, but actually eat up their enemies, we have the best of reasons for understanding why the comparatively few germs in the atmosphere of a healthy locality are far less dangerous to wounds than was earlier supposed. Again, too, we see that in the so-called surgically clean wound—that is, a wound where great care is taken to exclude foreign material, where blood-clots are removed, and the comparatively uninjured clean-cut surfaces are closely approximated—the reparative processes go on steadily, and rapid recovery supervenes, although in a strict scientific sense the wound is not aseptic.

In wounds where the surrounding tissue is devitalized these favorable conditions are not maintained, and here the germination of bacteria goes on much as seen in laboratory culture experiments.

I am constrained to believe that very few scientific observers or practical surgeons can be found who will not admit that the bacterial infection is one of the chief factors in the problem. This seems so clearly demonstrated from oft-repeated and critical observation that it may be accepted as a fundamental scientific truth. The greatly varying conditions of the infecting material, as well as that of the general organism, make possible the extremely confusing factorage, often kaleidoscopic in its changing forms, of the problem.

It is quite twenty years ago since a good fortune enabled me to profit from Lister's personal instructions, and I have watched with a never-failing interest the various phases of the discussion of the subject of wound treatment until the present. Mr. Lawson Tait, of Birmingham, during all these years has been the most heterodox of unbelievers. This noted surgeon, most intense in his personal convictions, has abundantly demonstrated by his practical experience that wounds treated in utter disregard of what he calls Lister's theories do exceptionally well. He is a rapid and dexterous operator, observes most carefully the conditions and surroundings of his patients and the most scrupulous cleanliness of the operative field, and maintains a clean, dry wound of the tissues with the minimum of injury. He laughs to scorn the idea of bacterial infection in such wounds, since he maintains that these conditions render bacterial development impossible. This sturdy knight sees only the obverse side of Sir Joseph's golden shield, and with vigorous home thrust, in a recent address,* declares the whole basis of antiseptic surgery "an absolute and ludicrous logical error." To show that Mr. Tait is really, notwithstanding his loud outcry to the contrary, in acceptance of what I consider the very basis of aseptic surgery, I quote the following from the above address: "The ordinary bacilli of decomposition will not attack, at least will not produce, these ordinary phenomena in living tissue, but they do so in dead tissue. Inclose some dead tissue with the necessary germs in living tissue, and you get a disturbance very fairly proportionate to the dose given. If the dose is small, or the tissue not very favorable for decomposition, the constitutional disturbance is slight. Thus a piece of dead beef as large as a walnut introduced into the calf of a man's leg would speedily excite a tremendous disturbance, but a piece the size of a millet-seed would probably give no trouble. An ivory peg thrust into a bone rarely gives trouble, and leaden bullets lie quietly even in the brain for years, because, though such tissue is dead, it is not prone to decomposition. Under the term *tissue* I include, of course, blood-clot and serum. Such tissues, when effused subcutaneously, may be either maintained in a really living condition, or they may become dead; on this most important question we really have no knowledge, but we know the fact. Whether living or dead, if protected from the access of germs, they do not decompose. The familiar example of a broad ligament hæmatocele proves this up to the hilt. Leave it alone, and the chances are fifty to one that it will slowly disappear without giving trouble. Open it or tap it—that is, admit the ordinary germs of decomposition—and you will secure abundant suppuration without fail. This is exactly the same thing as Lister's famous clot experiment, which Nature herself has been showing us in black eyes and other contusions for centuries. . . . If Sir Joseph Lister would witness the facts of the case, as they are in my practice daily, he will see that I care not a straw for injuring the peritonæum; that in the great bulk of my operations it is already so damaged that further injury is, and must be, a matter of utter indifference, and the only fact in his whole statement concerning me which is correct is that I wash away clots (pus, serum, and a great deal more) to avoid the risk of sepsis in the residuum. This is precisely what I have been teaching for the last twelve years. Lister's view was: 'Keep out the germ matter and you may leave blood-clots (and other matters) to take care of themselves.' My view was and is: 'Get out all decomposable matter, and you can let the germs in freely.' Lister has now come round to my view, so where is Listerism now? As I said a few months ago at the debate at the Medical Society of London, 'it is as dead as Julius Cæsar, after a short life of twenty years.' . . . There are two factors in the trouble, and it can be shown conclusively that one, the germs, are wholly inconsiderable without pabulum on which to feed, while the other, the pabulum, is sure to breed trouble, because it is practically and mechanically impossible to keep the germs out; they exist already in the blood and elsewhere, and are ever present, according to the best authorities. Finally Sir Joseph Lister claims the drainage of the peritonæum as an antiseptic measure. It is not many months since we were vigorously told by an eminent authority on abdominal surgery that if the Listerian precautions were properly carried out, drainage was wholly unnecessary, indeed pernicious. When Kœberlé first taught me drainage in 1873, he told me its use was to prevent the collection and retention of material capable of decomposition. In Chassaignac's writings may be found the most minute and detailed directions for the same purpose, and the most perfect reasoning on the subject. There is hardly a possible point in which Chassaignac does not meet the whole requirements, save in abdominal surgery, which was, of course, not then invented. It is a matter of ever-increasing wonder to me how Chassaignac's logical common sense and practical proposals have been neglected, while antisepsis has driven the surgical world wild with a wholly misdirected enthusiasm."

Returning to the address of Sir Joseph Lister, referred to above, after discussing the varions methods of wound infection, he says:* "In general surgery the direct application of strong antiseptic solutions is not attended with the same disadvantages as in operations in the peritoneal cavity. My practice for some time past has been to wash the wound, after securing the bleeding points, with a pretty strong solution of corrosive sublimate (1 to 500), and irrigate with a weaker solution (1 to 4,000) during the stitching, and I have had no reason to complain of the results. And yet I must confess that I have for a long time doubted whether either the washing or the irrigation was really necessary. . . . Since we abandoned the spray three years ago, we have been careful to compensate for its absence, not only by antiseptic washings and irrigation, but by surrounding the seat of operation with wide-spread towels wrung out of an antiseptic solution. For the spray, though useless for the object for which it was originally designed, had its value as a diffuse and perpetual irrigator, maintaining purity of the surgeon's hands and their vicinity as an unconscious caretaker. But if, besides the spray, we give up all washing and irrigation of the wound, our vigilance must be redoubled. Yet I believe that, with assistants duly impressed with the importance of their duties, the task would prove by no means difficult. I have not yet ventured to make the experiment on any large scale, though I have long had it in contemplation. It is a serious thing to experiment upon the lives of our fellow-men, but I believe the time has now arrived when it may be tried. And if it should succeed, then perhaps may be fulfilled my early dream. Judging from the analogy of subcutaneous injuries, I hoped that a wound made under antiseptic precautions might be forthwith closed completely, with the line of union perhaps sealed hermetically with some antiseptic varnish, and bitter was my disappointment at finding that the carbolic acid used as our antiseptic agent induced by its irritation such a copious effusion of bloody serum as to necessitate an opening for its exit; hence came the drainage of wounds. But if we can discard the application of an antiseptic to the cut surfaces, using sponges wrung out of a liquid that is aseptic but unirritating, such as the 1-to-10,000 solution of corrosive sublimate, we may fairly hope that the original ideal may be more or less nearly attained. We have already made of late considerable approaches toward it. Our wounds being no longer subjected to the constant irrigation of the spray, and carbolic acid having given place to the less irritating though more efficient solutions of corrosive sublimate, serous discharge is much less than formerly and less drainage required. In many small wounds where we used to find drainage imperative we omit it altogether, and in those of larger extent we have greatly reduced it. Thus, after removing the mamma and clearing out the axilla, I now use one short tube of very moderate caliber, where I used to employ four of various dimensions. But it would be a grand thing if we could dispense with drainage altogether, without applying the very firm elastic compression adopted by some surgeons, which, besides involving the risk of sloughing of parts of low vital power, with the chance that it may, after all, fail in its object, proves often extremely irksome to the patient."

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* *British Medical Journal*, September 27, 1890, p. 728.

* *British Medical Journal*, August 16, 1890, p. 378.

I am fully aware that even quotations so freely made render but imperfectly the ideas of these prominent teachers, although the general thought and spirit of each is fairly represented. It has recently been my privilege to see something of Dr. Bantock's work, who in the main is an advocate of the general thought which permeates Mr. Tait's teaching. There can be no question but that he exercises the greatest care in his technique as an aseptic operator, although he emphasizes his disavowal in the belief in or use of antiseptics of any kind.

The unbiased student must observe in the recent progress in wound treatment a fundamental truth based upon the repeated observations of abundant facts. This consists of three factors: First, the condition of the patient, the so-called vital resistant power; second, the bacterial infection, the seeding of the field; third, the condition of the soil, the pabulum necessary for the growth of the direful harvest. Upon this tripod at present rests the scientific basis of wound treatment. There are many workers equally earnest, equally thoughtful. It is better they should make their observations as independent original investigators. Much profit comes from the resuts of such heroic workers as Mr. Tait, Dr. Bantock, and many others we could mention. The recent teachings of those who advocate the so-called dry treatment of wounds convey another side view of the great fundamental truth of much value. Here primary union is prompt and there is little effusion which seems to require drainage. It will be noted that Sir Joseph Lister looks forward to the possible abandonment of drainage, which he has during the last three years greatly lessened. On the contrary, Mr. Tait, as may be inferred from the quotations, elevates drainage to a most important factor of wound treatment, and at the late International Medical Congress both he and Dr. Bantock predicted a greatly extended use of the drainage-tube. They disregard the bacterial infection, but insist upon the withdrawal of all material which could aid in its possible development.

The ideal of wound treatment is surely to restore the condition of the parts to as nearly their primal state as is possible. If this can be assuredly aseptic, then there is no bacterium to remove; if surgically clean, with accurate coaptation of the sundered parts, then there is no material which needs removal, nothing to drain. If, as we have seen, the leucocytes go promptly to work under such favorable conditions, the first series of the repair processes takes place, which ends in a prompt and speedy restoration. This should be effected under a dressing which will permit of the introduction of no foreign factorage. To this end Lister has unweariedly labored for nearly a quarter of a century. The various antiseptic dressings now so generally employed have a value in wounds necessarily drained, which must be considered open to a possible infection, but in a wound that is closed without drainage they are unnecessary, expensive, and cumbersome. Lister's ideal protective varnish is found in the closure of the wound with iodoform collodion.

My last five years of experience in the treatment of hundreds of aseptic wounds of every variety, closed in layers with buried tendon sutures and treated in no other way than by a protective layer of collodion, is cited in ample proof. Even in the major amputations such wounds go on to a speedy repair without pain or œdema of the surrounding parts. Call the various methods adopted to secure the end obtained by whatever name you will, the great fundamental principles of antiseptic surgery as enunciated by Sir Joseph Lister many years ago rest upon a sure foundation, and the results in modern wound treatment are the marvel of our age.

Original Communications.

ON THE EARLY DIAGNOSIS OF MALIGNANT DISEASE OF THE LARYNX.*

By D. BRYSON DELAVAN, M. D.,

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The early diagnosis of malignant disease, in general by no means easy, is nowhere more difficult than in the mucous membrane and on the glandular structures in the neighborhood of the throat. From a simple inspection of the surface of the suspected region so little may be learned that it has become the accepted custom to withhold judgment in doubtful cases until a diagnosis can be established by the aid of the microscope, or, on the contrary, excluded through the testimony of the lungs, or upon the results of constitutional treatment. Thus it would be supposed that if a thickening or ulceration of the larynx were associated with pulmonary lesions indicative of phthisis, the disease of the larynx would probably be tuberculous; that a localized tumefaction and congestion of the pharynx or larynx which seemed to yield to the internal administration of the iodide of potassium would probably be syphilitic; and, finally, that a similar lesion, associated with well-marked evidences of specific disease, could hardly be other than a manifestation of that dyscrasia. Accordingly, we are taught that cancer, syphilis, tuberculosis, and lupus all present characteristics which distinguish them to the eye, and that, besides the visual evidence offered, the diagnosis can be still further sustained by the corroborative evidence mentioned above.

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* Read before the American Laryngological Association at its twelfth annual congress.

Unfortunately, however, none of these assumptions are able to stand the test of experience. Not only are the objective appearances present in a given case of swelling or ulceration puzzling, or perhaps contradictory, but even the history of the case and the subjective symptoms are sometimes obscure and misleading. As an example of this, a large number of the cases in which the microscope has revealed tubercular disease of the tongue have been operated upon under the supposition that the disease was malignant, and the diagnosis only established upon a microscopical examination of that organ after its removal. On the other hand, obscure cases, in which the characteristic appearances of tubercular ulceration have been present, have been promptly healed by the iodide of potassium. Exceptional cases of the nature alluded to are not rare. For the purpose of arranging them more accurately and of explaining them more fully, the following classification is offered:

I. Cancer of the larynx may be uncomplicated, but the diagnosis obscured by the absence of the usual signs and symptoms. On the other hand, conditions other than cancer may be mistaken for that disease.

II. Cancer of the larynx may be associated with or mistaken for tubercular disease. Conversely, tubercular disease may closely resemble cancer.

III. Cancer may be associated with or simulate specific disease. On the other hand, syphilis may readily be mistaken for cancer.

Difficulty of diagnosis in laryngeal cancer, therefore, may present itself in two general classes of cases—namely, those in which the disease exists by itself and uncomplicated with other conditions; and, secondly, those in which the recognition of its presence is made difficult by the existence of some complicating factor.

These conditions have all occurred in the writer's experience—some rarely, others with considerable frequency—and it has seemed that no better way of describing them could be chosen than that of presenting a few of the more instructive cases bearing upon the less common varieties.

Of the uncomplicated cases seen by the writer in which the diagnosis was obscure, the following, observed a number of years ago in the dead-house of the New York Hospital, is the most interesting and unusual, and well illustrates the difficulty of diagnosis sometimes met with:

Case I.—Male, aged fifty-four, married, Italian. Denied specific disease. Badly nourished. Principal symptoms, laryngeal cough, aphonia, and occasional dyspnœa. Laryngoscopic examination made by the writer revealed apparent paralysis of the right side of the larynx with moderate thickening of the false vocal cord, the surface of the mucous membrane of which was distinctly smooth. There was slight loss of motion of the left side of the larynx, abduction not being completely accomplished and marked spasmodic action being sometimes observed. Tracheotomy was recommended, but the patient died in an attack of dyspnœa while it was being performed. The autopsy revealed a subglottic enlargement of the right side of the larynx, the surface of which was nodular, which on microscopic examination proved to be epitheliomatous, and which was completely overhung by the right vocal band and concealed by it, so that its demonstration by the laryngoscope was impossible. There was no ankylosis of the arytænoid articulations.

A more striking case than the preceding is—

Case II.—Mrs. G., married, aged thirty-five. The husband of this woman, aged forty, developed an ulcerative condition of the larynx, which presented all of the characteristic appearances of epithelioma, both to the eye and under the microscope, and which followed the usual course of that disease, and finally destroyed the patient's life. During the progress of the disease in the husband the wife also became affected with what appeared to be precisely the same condition. Her symptoms, subjective and objective, were so similar to those present in the case of the husband and so thoroughly characteristic of epithelioma, that it was impossible to offer a prognosis more favorable in the case of the one than in that of the other. With both it became necessary to perform tracheotomy. The effect in each case was, as usual, temporarily to retard the progress of the disease. Subsequently the man died. The woman, in whom the disease was limited to the right side of the larynx, meanwhile fell into the hands of the late Dr. Elsberg, who, operating upon her at repeated sittings through the tracheal opening, finally succeeded in removing the offending tissue. The patient recovered, and up to eight years afterward was often seen by the writer, in excellent general condition and with a larynx in which there existed not a sign of active disease, although the right vocal band was gone, the right side of the larynx immovably fixed, and the rima glottidis so narrow that the use of the tracheal cannula was still required. The question of the precise nature of the above case remains unsettled, as I am unable to learn that any microscopical examination of it was ever made. Examined side by side with the husband during the active stage, it was impossible to believe that the disease in the wife's case was not malignant, while the fact of its non-recurrence is strong proof of the improbability of its having been epithelioma.

The deceptive character of growths of the larynx of the papillomatous class has become almost proverbial. Not only is the eye at fault in judging of many of them, but even the microscope may sometimes lead us into error. This latter accident can hardly be misunderstood by any experienced pathologist, for it is not uncommon, in examining the whole thickness of a tumor, to find that the elements near the surface differ materially from those of the deeper portions of the growth. It would be supposed that the external appearance of an ordinary papilloma would be sufficiently characteristic. That this is not always the fact is shown by the following:

Case III.—A man, aged sixty, upon one side of whose larynx appeared three small papillomatous growths. Thyreotomy was performed and the interior of the larynx presented to view. Thus exposed to the light and under the most careful inspection, it still was impossible to detect any positive appearance of malignant disease. The growths having been removed, microscopic examination easily established the diagnosis of epithelioma. The disease recurred shortly after this, and a highly successful extirpation of the larynx, performed by Professor William T. Bull, prolonged the patient's life for nearly two years.

It appears not uncommonly that epithelioma of the larynx is complicated with pulmonary phthisis. Indeed, a recent writer has called attention to the possibility of the dependence of the malignant disease upon the other. It is easy to understand that with the existence of the pulmonary lesion a thickening of the mucous membrane of the larynx not sufficiently well marked to excite the suspicion that it was malignant, might easily be mistaken for tubercular laryngitis, as is well illustrated in the history of—

Case IV.—John B., Ireland, aged fifty, married, porter. The patient applied for treatment at the College of Physicians and Surgeons, New York, October 15, 1882. Had always enjoyed excellent health; was not aware of any heredity; had been strictly temperate in the use of alcoholics, and regular in his habits; was a moderate smoker; gave no evidence whatever of syphilis. During the month of August, 1882, while employed as gate-keeper on the elevated railroad, first noticed a slight hoarseness of voice. This increased slowly, and soon began to be attended with a mild laryngeal cough. Soon afterward began to lose strength, appetite, and flesh.

When first examined, two months after the beginning of these symptoms, the patient appeared to be a fairly well-nourished man, of medium height and build, light complexion, and good intelligence.

Laryngoscopic examination, made with some difficulty by reason of a marked hyperæsthesia of the pharynx, revealed a condition which differed little from an ordinary chronic laryngitis. Both vocal bands were congested and thickened, the congestion extending throughout the whole interior of the larynx, but being most pronounced upon the left false cord, which was also slightly enlarged and prominent.

Examination of the chest showed physical signs of phthisis, first stage, at apices of both lungs.

By the middle of December following, the above-mentioned enlargement of the left false cord had progressed decidedly, and its surface, from being smooth and natural, began to be nodulated and uneven. This continued to such an extent that the presence of a new growth in the larynx, long before recognized and for some weeks suspected to be of a malignant type, could no longer be doubted. From this time it developed with increasing rapidity, following the usual course of epithelioma, which it was proved by the microscope to be, and finally ending with the patient's death. The autopsy showed advanced phthisis in both lungs.

Syphilis may readily be mistaken for malignant disease, even in cases where the appearances are in the main pathognomonic. This accident is of such frequent occurrence that the importance of a tentative course of specific treatment can not be too strongly insisted upon. On the other hand, malignant disease has occasionally been mistaken for syphilis, an error by no means difficult to make in view of the apparently beneficial influence of the iodide of potassium early in the course of its administration upon the former condition. Indeed, it is a matter of somewhat common occurrence for the first effects of the iodide to be markedly salutary. Within a short time, as a rule, the deceptive character of this improvement becomes evident, and, in spite of the drug, the disease makes steady progress. Where the evidences of syphilis are actually present and the use of the iodide is followed temporarily by good results, the difficulties in the way of an early diagnosis of cancer are particularly great, as illustrated in the following:

Case V.—J. W. B., aged fifty-six, consulted me for neuralgic pain in the right lateral wall of the pharynx, from which he had lately been troubled. He stated that many years ago he had contracted syphilis and had suffered severely from ulceration of the throat. Had been somewhat intemperate and had been an immoderate smoker. Examination of the pharynx revealed partial destruction of the soft palate and numerous old cicatricial bands upon it and the posterior pharyngeal wall, which were characteristic of former specific ulceration. There was slight redness of the tonsil, which extended deeply into the pharynx, but absolutely no apparent indication of thickening or tumefaction. Under large doses of the iodide of potassium there was a slight but transient improvement. The pain, however, soon returned, and, although markedly improved by the local application of astringents and particularly of nitrate of silver, never entirely disappeared. A change in the character of the pain began to take place, and it became of a more distinctly lancinating character. Suspecting the possibility that the case was malignant, the patient was seen in consultation by one of the best diagnosticians living, who promptly and positively pronounced it specific.

The redness meanwhile spread below the tonsil and across the base of the tongue, and a gradual thickening of the mucous membrane, imperceptible at first but growing more and more distinct, began to take place. The diagnosis of probable epithelioma was made, but it was a long while before the appearances were such that it could be confirmed. Later one of the cervical glands became involved and ulceration of the mucous membrane adjacent to and outside of the larynx took place. The disease progressed, and death in the usual manner resulted. The points of special interest in this case are (1) the impossibility of early diagnosis; (2) the fact that the disease was diffused and that a widespread infiltration had existed from the outset; (3) that, in consequence, at no time in its history could an operation have been performed with any reasonable prospect of relief.

From the histories quoted above and in the light of general clinical experience, it appears that numerous variations in the typical course of malignant disease of the larynx are observed. Even the most marked and constant of them are sometimes wanting during the earlier stages of the difficulty and do not develop until the latter has made considerable progress. Even the common symptoms—aphonia, cough, dysphagia—may at first be wanting, while the appearance of the growth and the general history of the case are often misleading throughout the earlier stages and do not reveal the true character of the disease until the case has become helpless. Again, pain of lancinating character, almost invariably present, will sometimes not appear early in the history of laryngeal epithelioma, particularly, according to Mr. Lennox Browne, where the growth is intralaryngeal and unilateral.

Swelling of the cervical glands is often absent in the earlier stages and may be of such late occurrence as to be useless as an early diagnostic sign, while secretion and well-defined deformity may be entirely absent for a considerable length of time.

In view of these things, it remains to us to study the value of means not fully recognized and accepted, to test the worth of whatever new suggestions may be made in this direction, and to seek to discover efficient methods hitherto untried.

Of the first-mentioned class of methods, thyreotomy is the one most likely to challenge attention. By means of this operation the larynx may be opened and its interior fully exposed to view. Even under conditions thus favorable for the careful and accurate examination of the tumor, it is not always possible to establish the diagnosis, as was seen in Case IV, unless through the removal of the growth and its examination under the microscope, a somewhat severe procedure.

The objections to thyreotomy, therefore, are (1) the magnitude of the operation, and (2) the possibility of finding a benign growth after all. Three other and less radical aids to diagnosis have lately been advanced. The first two are based upon the pathological appearances; the third is mechanical.

1. Thickening of the mucous membrane, with marked loss of motion in the neighborhood of such thickening, implies an infiltration of the muscles which, it is said, is generally due to malignant disease. An apparent paralysis of one side of the larynx, associated with thickening upon the same side, should always call for extreme caution in the matter of prognosis.

2. As the result of numerous investigations made during the last two years, it is held by many that of new growths of the larynx, those that are papillomatous in form and the bases of which are not surrounded by a zone of inflammation are probably benign, while those which are encircled by a ring of reddened, infiltrated membrane are almost certain to be malignant. The truth of this assertion has been verified in several instances by the writer, although, on the other hand, he has found that it is not constant and, therefore, that it can not be depended upon.

3. Translumination of the larynx, first suggested by Voltolini, has been studied of late by several observers. While, by the use of the electric light applied to the exterior of the larynx, the writer has found it possible to gain tolerably satisfactory results in causing the light to penetrate the walls of the larynx, it would hardly be possible by this method to recognize the presence of an abnormal thickening which was not already sufficiently well developed to be visible to the eye by the ordinary intralaryngeal demonstration. As a means of recognizing the presence of a new growth of recent origin and of small extent, this method is at present of doubtful value. For the purpose, however, of demonstrating the relative density of an enlargement of appreciable size, transllumination of the larynx is a method of considerable importance; and even in cases of the class first mentioned it may occasionally be found useful. At least it should not be entirely condemned, since it is yet in its infancy, both as regards the apparatus used and as to the skill of those employing it, and it may in the future be so perfected as to become of practical importance.

Thus, in conclusion, it will be seen that while, in cases of laryngeal cancer, all of the classical symptoms will ultimately appear, and that, as a rule, they are present from an early period, the point aimed at by this article is to demonstrate that they may be postponed until the disease has passed the stage in which it may be regarded as possibly remediable, and thus offer no real aid in the saving of the patient's life.

The presence of muscular infiltration; the occurrence of a reddened areola around the base of the tumor, if indeed the disease present itself in the form of a tumor having a base; the appearances developed by the use of transmitted light—all of these, although uncertain reliances, do add in some measure to our scanty resources, and, together with the general history of the case, the ordinarily recognized symptoms, objective, subjective, microscopical, and therapeutical, and, finally, with the training of the judgment which comes to the experienced observer from the study of many examples, enable us in most instances to determine tolerably early the true character of the disease. Nevertheless, since the only hope of saving the life of the patient may depend upon the earliest possible performance of an operation, it is evident that with the above-mentioned diagnostic resources we are still, in spite of recent allegations, far behind in the knowledge necessary to the successful radical treatment of malignant laryngeal disease.

SOME NEW LATERAL-TRACTION HIP SPLINTS.*

By A. M. PHELPS, M. D.,

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In presenting these splints to this Section it is necessary for me to state briefly the object of the splints and the principle which is desired to be carried out. They are designed, first, so far as possible, to *absolutely immobilize the joint*; secondly, *to relieve intra-articular pressure.*

I am convinced that these two are the first principles to be followed in the treatment of joint disease. Fixation and rest allow the processes of repair to take place, uninterrupted by the trauma of motion. Traction relieves intra-articular pressure and controls muscular spasm.

Those gentlemen who advocate the constant moving of joints during inflammation argue that ankylosis will certainly follow unless motion is kept up. Thomas, of Liverpool, says that ankylosis is more certain to follow if motion is allowed, and that an inflamed joint is not so likely to become ankylosed if absolutely immobilized; that the ankylosis which follows is produced by the severity of the inflammation and not by immobilization.

Many also teach that healthy joints will become ankylosed if immobilized for any considerable period. In answer to them I will say that I have immobilized inflamed hip joints from ten months to a year and a half without producing ankylosis; that I have also immobilized healthy joints in animals from six weeks to four months without producing that result. (See *Transactions of the Loomis Laboratory* for 1889.)

It seems to me that those who have carefully observed tubercular inflammation of this joint or its appendages will have been convinced that the spasmodic action of the muscles is a very serious element in producing the destructive changes which so frequently and so generally follow in joints not treated.

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* A paper read before the Tenth International Congress, Berlin, 1890.

Where abnormal intra-articular pressure is present there is danger of destruction of the head of the bone even in a healthy joint, as was illustrated by one of the specimens here referred to. The hind leg of the dog was fixed over his back with plaster of Paris in a cramped position. At the end of six weeks he was killed and the hip joint examined. The head of the bone and acetabulum were red and congested, and the cartilage was commencing to degenerate. The knee joint, in which no intra-articular pressure was made, was found normal.

To the gentlemen who argue that motion should be permitted in an inflamed joint, I will say that they seem to forget that one of the laws of surgery is that where a part is inflamed it should be put at rest, whether it is muscle or joint or any other part of the body that can be immobilized. By constantly moving the joint, the delicate new tissue which Nature is trying to produce is broken up, which may lead to destruction of the joint either by necrosis or cicatricial contraction of the capsule.

I fully agree with Sayre, Taylor, Barwell, Marsh, and others that spasm of the muscle should be overcome by extension. I also fully agree with Thomas, of Liverpool, that every joint should be fixed and absolutely immobilized until all inflammatory action has subsided and a cure is effected. But I do not believe that immobilization of the joint can be accomplished without extension; neither do I agree with the first-named gentleman that extension immobilizes a joint sufficiently to attain the best results possible, but that a combination of the principles of fixation and extension should be the law. *Hence the long traction splint, which admits of motion, does not immobilize, and the patient produces injury of the joint every time he steps upon it, as is evidenced, in the vast majority of cases, by the almost constant increase of the deformity after the splint is adjusted.* Neither does a Thomas splint produce extension or relieve intra-articular pressure; hence there must be abnormal intra-articular pressure when spasm or contraction of muscles is present, which must produce congestion of the head of the bone. And then, if extension is to be applied, it should be in the direction opposite to the line of traction made by the muscles. In other words, to apply extension to a hip joint, we should not only make traction in the line of deformity, but also in a line at right angles to that deformity. To relieve perfectly intra-articular pressure, extension must be made in a line corresponding to the axis of the neck, and not with the axis of the shaft, for the following reasons: The adductors and abductors pass diagonally across the body from the pelvis to the femur. These, with other muscles, are the ones affected by spasm. *When they contract, the head of the bone is firmly drawn into the acetabulum, the force operating on a line corresponding to the axis of the neck.* The flexors act on a line corresponding to the axis of the shaft of the bone.

Busch, I believe, was first to call the attention of the profession to this fact. In 1873 Albert, of Vienna, again emphasized it, and quoted from an article published years before by Busch. He says, quoting from Busch, that "this is a second clear indication that distraction has a beneficial effect. But this purpose has not been reached by the usual method of traction. Busch has demonstrated in a manner apparent to everybody that traction ought to be made in the axis of the trochanter" (or neck). He further adds that Dumreicher says that "if you want to control the pressure it is necessary to make traction in two lines; the muscles which pass from the pelvis to the femur act in two directions. The one draws the femur toward the median line" (adductors and abductors) "and the other flexes it." (*Medizinische Jahrbücher*, Stricker's, page 454, 1873.)

When I published my article setting forth these principles last year I was not aware of the fact that these distinguished gentlemen had already arrived at and had published the same conclusions. For years I had applied the principle of double extension and had taught it to the various medical classes in the universities where I had had the honor of teaching. That the principle is correct I have no doubt, provided it is admitted that traction is necessary in the treatment of hip-joint inflammation. And I am as firmly convinced of the necessity of traction when muscular spasm and contraction exist as I am of the only scientific method of applying it—viz., in a line parallel to the axis of the neck of the femur.

Then, believing that immobilization and extension in proper lines are the law, I have constructed the following splints:

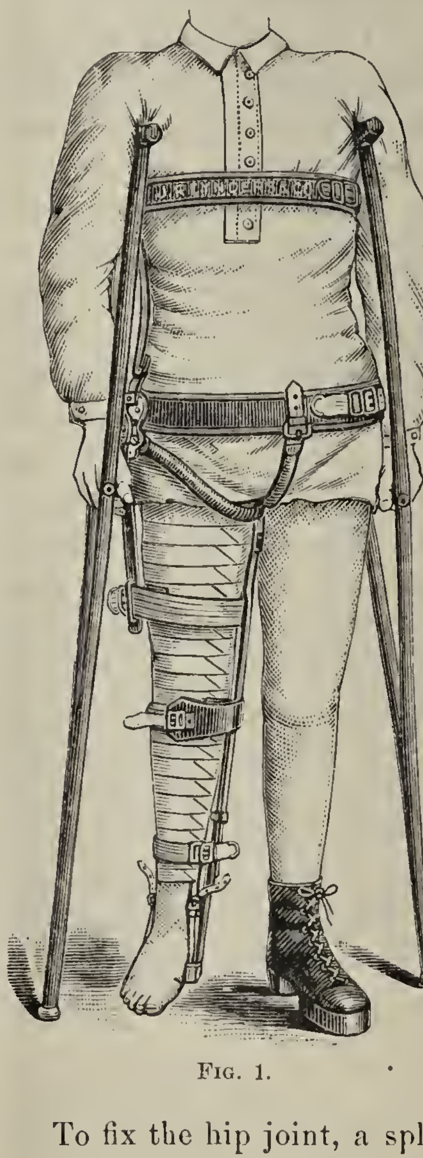

FIG. 1.

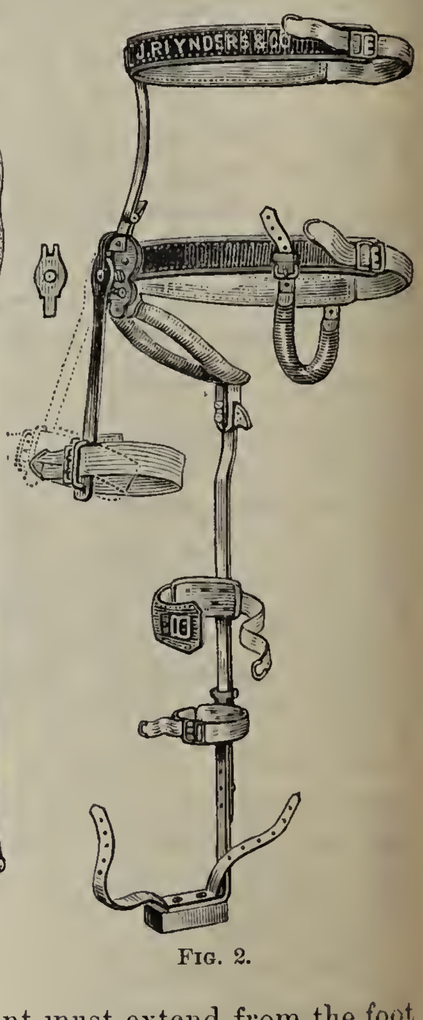

FIG. 2.

To fix the hip joint, a splint must extend from the foot to the axilla. (See Figs. 1 and 2.)

Fig. 2 represents the perineal crutch, with the abduction bar (1), adjustable by means of the key (6), for the purpose of making lateral extension. The steel bar (2) is adjusted to the steel ring (3), which makes a firm crutch, the pressure coming on the tuberosity of the ischium. Adhesive straps, extending to near the body from the ankle, furnish means of extension by tightly buckling them to the straps (7, 7), the ring (3) furnishing counter-extension. The rod (5), ending in the upper ring, prevents flexion and extension of the legs. The splint is intended to prevent every motion at the hip joint, and at the same time apply extension in a line with the neck of the femur. Fig. 1 shows the crutch and splint adjusted, the patient using crutches, and standing upon a high shoe upon the well leg.

This splint I found a little too expensive for dispensary work. I then constructed the splint (Fig. 3), which simply does away with the extension joint and key. This was also too expensive for hospital work, but both splints did the work perfectly.

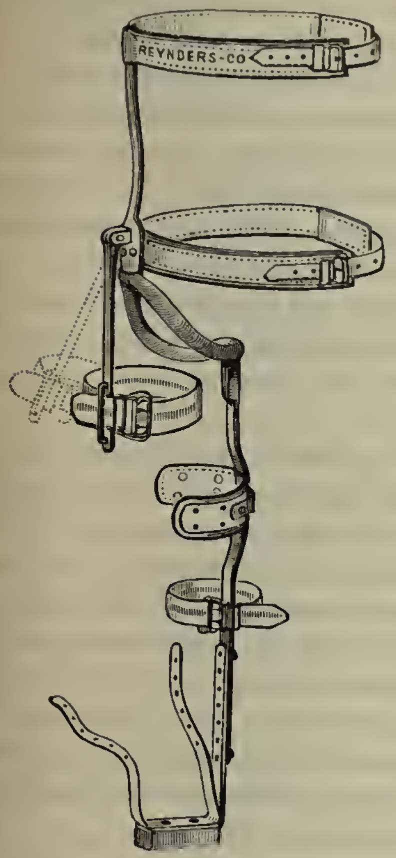

Fig. 3.

After a time, for my poor patients in the hospitals and dispensaries, I succeeded in perfecting a cheap splint, which applies the principle of fixation and traction in the line of the neck.

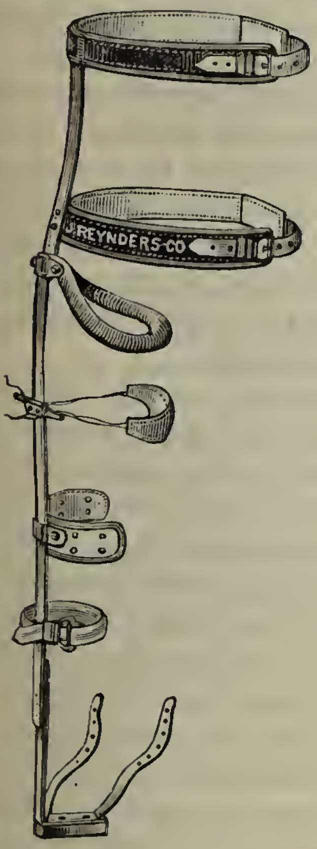

Fig. 4.

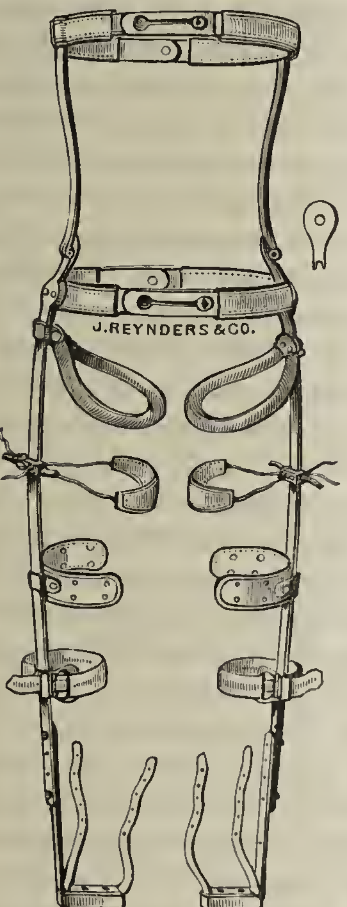

Fig. 5.

A glance at the cut will convey the idea. Fig. 4 is the single and Fig. 5 the double splint for double hip disease. The splint is a bar of steel, extending from the foot to the axilla, accurately bent to fit the body. A tracing made on paper by laying the child on it will assist in shaping the bar. A pelvic belt, a thoracic belt, and a steel perineal ring complete the fixation part of the splint. The straps in the foot-piece buckles to adhesive straps attached to the leg, which make longitudinal traction. The strap lashes the leg to the splint, making lateral traction precisely as the abduction bar acts in Figs. 1 and 2.

An ordinary blacksmith can construct this splint.

Before either these or any other splint is adjusted, however, the patient should be treated in bed until deformity is overcome and the active stage of the disease somewhat modified.

To conclude, my observations lead me to believe that the most serious element of destruction in hip-joint disease is the trauma and pressure produced by the spasm of the muscle; that fixation of the joint without extension is an impossibility; that the successful treatment of the joint must depend upon its absolute immobilization, which can only be produced by proper extension and fixation; that the constitutional treatment of hip-joint disease amounts to but little, independent of mechanical treatment; that mechanics is everything; *that extension in a line with the axis of the shaft and deformity alone, in hip-joint disease, is entirely wrong*; that extension should be *made in a line parallel to the axis of the neck*—in other words, *two lines of extension*—otherwise the idea of extension is not perfectly carried out; that ankylosis of the joint is not produced by immobilization, but by the severity and character of the inflammation; that the long traction hip-splints in general use neither properly extend nor immobilize the joint; that the intra-articular pressure results in the destruction of the joint or ankylosis in a large percentage of cases is proved by statistics; that the results in hip-joint disease should be as good as those of knee-joint disease, and will be, provided perfect immobilization can be carried out; that patients should never be allowed to step upon any portative apparatus; that a high shoe on the well leg and crutches should be insisted upon until the patient is cured; finally, *that the angular deformity seen in cured cases should not occur, and such cases are a standing rebuke to the splint and methods employed. In other words, no patient with hip-joint disease need ever recover with angular deformity.* In exceptional neglected cases of dislocation a slight amount of deformity had better be left than resort to osteotomy.

40 West Thirty-fourth Street.

Against Counter Prescribing.—"Some of the physicians of St. Joseph, Mo., have inaugurated a war on counter prescribing, which they claim has become so flagrant as to necessitate some action on their part. It is said that evidence has been secured, for presentation to the grand jury in November, implicating a number of druggists and drug clerks. It is reported that the testimony in one instance is that of a young man who suffered from syphilitic disease, and made a contract with a druggist's clerk, who agreed to cure him in four months in consideration of the sum of $6 per month. The patient is still under treatment. The law in the case is not exactly clear, but the physicians interested in the movement believe that a conviction will be secured for the violation of the medical practice law."—*Druggist's Circular and Chemical Gazette.*

PELVIC ABSCESS.

REPORT OF FIVE CASES, WITH COMMENTS.

By L. H. DUNNING, M. D.,
INDIANAPOLIS.

The following history of cases contains some points of interest which, the writer thinks, justifies their publication:

Case I.—Mrs. H., white, German, aged thirty-two years, mother of three children, was admitted to the City Hospital in February, 1890. She was said to be suffering of inflammation of the bowels. This was her third attack, and in it she had been very sick. She was, however, better on admission.

I saw her a few days after admission. She had so far recovered as to be able to sit up a few minutes at a time. She complained of great pain through the abdomen and pelvis, and had a temperature ranging fron 99° to 101°. Upon examination, found marked tympanites, yet could map out a cystic tumor with lax walls and rapid wave of fluctuation. The uterus was fixed, vagina hot, and tissues very tender. Diagnosis—ovarian tumor and purulent peritonitis due to rupture of cyst walls. Two days later, after careful preparation of the patient, an abdominal section was made. A medium-sized ovarian tumor on right side was found with universal adhesions. It was tapped, but not removed. A small tumor of the left ovary was removed. While lifting up this tumor the walls of an abscess were ruptured, and probably four ounces of pus poured out into the pelvic cavity. Upon examination of the abscess cavity, it was found to extend well down into the pelvis behind the uterus. In consequence of the alarming condition of our patient, we were obliged to hasten through the operation. The abdominal and pelvic cavities were flushed with warm sterilized water, the cystic walls stitched to the incision, a drainage-tube inserted into the cyst cavity and another one left in the abdominal incision and reaching down into the pelvis, and finally the incision was closed with deep and superficial sutures. The patient survived the operation thirty-six hours. A post-mortem examination was made, and evidences of both old and recent peritonitis were found, also numerous small abscesses in different locations in the abdominal cavity.

Case II.—L. D., colored, aged thirty-two years, was under my treatment during the months of January, February, and March of the present year for fibroid tumor of the uterus. Apostoli's method was employed. The tumor was interstitial and very hard. It was developed more on the right side than on the left, and lay well down in the pelvis. The upper border was on a level with the umbilicus. The menses had been suppressed five months, and the patient had frequent seizures of hystero-epilepsy. She had one of these paroxysms one day while upon the chair taking electricity, and furnished a fine clinical study for a number of students who were present witnessing the electrical application. In consequence of the suppressed menstruation, the negative pole was attached to the intra-uterine electrode. There were in all eleven séances. We began with thirty milliampères, and gradually worked up to one hundred and fifty milliampères. The time in employing the stronger currents was five minutes, and the weaker ones seven to ten minutes. Before and after each application the most strict antiseptic precautions were observed. In her visit to the office on April 12th the patient stated she had had a large discharge of matter from the rectum at stool each day for ten days. A digital examination *per vaginam* was made. The tumor was fixed, the tissues around the uterus hard, hot, and very tender. There was one spot in the vagina at the right of the uterus that felt slightly boggy, and here an indistinct sense of fluctuation could be elicited by combined examination. Nothing further could be learned by digital examination *per rectum.* On introducing the speculum into the rectum, quite a quantity of yellow, bad-smelling pus ran out and formed a small pool upon the chair. We concluded that the electricity had induced suppuration in the tumor, that the pelvic tissues had become inflamed, and finally participated in the suppurative process.

The opening of the abscess into the rectum was not found.

Dr. Cook subsequently examined the patient and confirmed our diagnosis, but failed to find the opening. The treatment consisted of tonic, nutritious diet, and copious injections of hot water into the rectum three times a day. When six weeks had elapsed, the discharge of pus had ceased, the tumor was diminished to less than half its former size, and the evidence of cellulitis nearly disappeared. At present the patient is feeling well, is menstruating regularly, and has had no convulsive seizures since April.

Case III.—Mrs. B., a domestic, colored, aged twenty-eight years, was admitted to the City Hospital on January 2, 1890. She gave the following history: She had been confined three years previously, and had had gonorrhœa a year later. During the last two years menstruation had been painful and scanty. At the time of admission, menstruation was exceedingly painful, there was a mere show, and she had epileptic seizures at each epoch. There was marked pain in the pelvic region, and considerable tenderness upon pressure. The temperature ranged from 99° to 100° F. The patient walked with considerable difficulty and always with the trunk bent forward.

Upon examination, laceration of the cervix and cervical endometritis were found. The right ovary was found in the *cul-de-sac*, and an oblong mass above it extending toward the uterus. Both were exquisitely tender to the touch. The left ovary could not be felt, but a sausage-like mass was mapped out upon this side upon a level with the body of the uterus. This was thought to be a pyosalpinx, and a like condition believed to be present upon the right side. An operation for their removal was advised and accepted. The patient was carefully prepared, and on January 12th a laparotomy was done in the usual manner. The tubes and ovaries were found adherent, but were lifted up and removed. Both tubes were distended by pus. The left one ruptured in handling, so tense and thin were its walls. The thinnest portion of the tube lay against and was adherent to the layer of the broad ligament near the upper border. The patient made an uninterrupted recovery, having, however, several epileptic seizures during the three weeks immediately following the operation. She was discharged from the hospital in six weeks in a very good condition of general health. I saw her three months later, when she stated that she had had no convulsions since she left the hospital, and that she was able to attend to her work as a domestic.

Case IV.—Miss A. B., aged twenty-six, was admitted to the hospital August 19, 1890. A few days previously she had expelled a two-months-and-a-half embryo with membranes intact. Eight days later a second embryo was expelled inclosed in the membranes. For two or three days all seemed to go well with the patient, except that she had a slight abnormal temperature. On August 29th, three days after the expulsion of the last embryo, the temperature rose to 105·8° F., and the pulse was 135 per minute. The uterus was mopped out and irrigated. Irrigations were frequently used. Quinine, whisky, and antipyretics were given. Under this treatment the patient's general condition improved somewhat. The temperature ranged from 101° to 103° F. till September 1st. Upon that day she came under my observation and treatment. A physical examination revealed the following facts—viz.: there was slight tympanites with considerable tenderness upon pressure in the vaginal regions, more marked upon the right side. There were secondary syphilitic sores upon the labia. The vagina was hot and the tissues were very much swollen upon the right side, where there was also bulging of the anterior and lateral walls. The most prominent point of bulging was on a level with the cervix and to the right. Here fluctuation was detected. With the assistance of Dr. Oliver and Dr. Wright, aspiration was done. A large-sized trocar needle was carried into the tissues at the point of fluctuation an inch and a half. A small amount of bloody serum was withdrawn, and two or three drops of pus followed the withdrawal of the trocar. A hot bichloride douche was given and the patient put to bed. The next morning the temperature had fallen to 99·4° and there was a slight discharge of pus into the vagina. The following day a digital examination was made and a large opening found at the point of puncture admitting the tip of the finger. Through this opening pus was discharging freely. From this date, September 3d, the patient rapidly improved, and on September 25th was walking about the wards. There is still slight discharge of pus and some thickening and tenderness of the pelvic tissues upon the right side. After the opening of the abscess the treatment was limited to tonics and stimulants and vaginal irrigations of bichloride solution (1 to 3,000).

Case V.—Mrs. P., aged forty seven years, a small, delicate, refined lady, has been an invalid three or four years. About two years ago Dr. Harvey informed her that she had a uterine fibroid. Menstruation is too frequent, is excessive and painful. There is a profuse discharge in the interval between the menstrual periods. This discharge is sometimes pus and sometimes muco-pus.

Upon physical examination, the uterus was found much enlarged, and an interstitial fibroid in the right side of the body of the organ. Extending to the left and posterior to the uterus was an oblong mass I estimated to be two inches long and an inch thick. This mass was soft and boggy and the uterine end began near the left corner. This I pronounced a pyosalpinx. Laparotomy was advised, but the patient positively refused to submit to any operative procedure. She had heard of the benefit of electricity in cases of fibroid tumors, and wanted it tried in her case. I explained to her that the presence of pus in the pelvis was considered a contra-indication to the use of electricity, but that some operators had beneficial results in treating pyosalpinx with electricity, and signified my willingness to use electricity in moderate doses, but would make no promises as to results. She accepted these conditions, and on February 1st the first application was made, a current of twenty-five milliampères' strength being employed five minutes, using Martin's abdominal electrode and Apostoli's intra-uterine electrode, the latter being connected with the negative pole of the battery. From this time to April 15th the patient had twelve applications of the current, the positive pole being attached to the intra-uterine electrode every time after the first. From twenty-five to fifty milliampères were used at first; once the strength of the current was sixty-five milliampères, and once, on account of the milliampèremeter failing to register, about one hundred and twenty-five milliampères were employed. This latter application caused considerable pain and produced cauterization of the tissues of the cervical and uterine canal. The pain lasted but a few hours, and then the patient was for several days easier than she had been for a long time. Following this strong application, weak ones were used until the superficial slough separated and the surface healed; then I tried a stronger current (sixty-five milliampères), but it induced so much pain and soreness that it was never repeated, but weaker ones were employed. On April 15th the patient moved away from the city, and I lost sight of the case until September 8th. The electricity had the effect of diminishing the amount of flow at menstruation, and at first caused a marked diminution in the size of the tumor. The purulent discharge continued about the same as when first seen.

On September 8th Mrs. P. came to the city to consult me. She stated that she had not menstruated for ten weeks, that her general health had improved somewhat, but that she still suffered considerable pain, and that the discharge of pus was quite profuse. By combined examination the uterus was found slightly movable. The abdominal walls were so lax and the vagina so large that the uterus could easily be grasped by the hands. It was larger than normal and the right side thicker, but one not knowing the previous history would hardly have suspected the presence of a myofibroma. A soft, boggy, oblong mass extended from the left horn of the uterus outward and slightly downward and backward. Thin creamy pus was seen oozing from the os. It was mopped away, and in a few minutes more made its appearance. The cervix and os looked healthy, except slightly macerated. The pus undoubtedly proceeded from the left tube. Here was a condition of affairs entirely new to me—a fibroid tumor undergoing absorption, atrophic metamorphosis of the uterus occurring, while a pyosalpinx was freely discharging into the uterine cavity.

Since the patient's condition was slowly improving, I concluded to keep hands off for a time, but explained the situation to the patient, and also the advisability of consulting a physician at once should the discharge cease suddenly, pain increase, and illness develop. I shall watch the further developments in this case with great interest.

Extended comment on these cases is unnecessary.

In Case I the pelvic abscess was coincident with abscesses in other parts of the pelvic and abdominal cavity and dependent upon the same cause—viz., peritonitis. There was no involvement of the tubes or ovaries in the suppurative process.

Cases II and V are interesting on account of their bearing upon the much-discussed question of the effects of electricity in diseases of the ovaries, tubes, and uterus. The suppuration in Case II was not, I think, due to septic infection.

The current had a caustic effect upon the endometrium, but the canal was always patulous, and every precaution we were acquainted with was used to prevent infection. The treatments were given at my office, but the patient took a long rest, rode home, and went to bed, remaining there the remainder of the day. The suppuration must have taken place slowly, for the patient was around the house continually and insisted that she was gradually improving. Menstruation occurred once before the rupture of the abscess and was nearly normal. The suppuration must have been due to the interpolar action of the current.

Case V tends to show that a pyosalpinx does not always contra-indicate the use of electricity. How great an effect the current had in effecting a diminution of the fibroid tumor I am unable to say. The apparent effect was to considerably lessen the size of the morbid growth. There was a profuse discharge of serum after each application of the current, so that it may have acted simply in the way of setting up a drainage of the tumor. I have observed in treating fibroid tumors by the Apostoli method that the decrease in the size of the tumor was greater when there was a copious serous discharge following each application. The amount of liquid draining away from one of these tumors when removed by hysterectomy is something surprising to one witnessing it for the first time.

In the application of the electrical currents of high intensity, if the negative pole be attached to the intra-uterine electrode, the transudation of serous liquid from the tumor into the uterine cavity will begin at once and continue for two or three days, and there will be usually at the beginning of the treatment a decrease in the size of the tumor in some degree corresponding to the amount of fluid transuded. This I believe to be the explanation of the fact that in nearly all cases in which this method is adopted the tumor will at first decrease in size, but, soon or late, a point is reached where the size of the tumor is unaffected by the passage of the current. It will explain, too, another fact: that in many instances very soon after the application of electricity is discontinued the tumor grows rapidly to its former dimensions. We can not find here, however, an explanation of all the interpolar changes induced when the electrical current is passed through tissues, for Case II shows us one instance in which suppuration was induced. Sometimes the growth of the tumor is permanently checked, and occasionally it is caused to disappear entirely. In our case, probably the changes incident to the menopause led to the gradual disappearance of the tumor.

Case III presents one point worthy of comment. The left tube was closed at both ends and distended to the point of bursting the thinnest point; the one ruptured in handling lay against and was adherent to the posterior layer of the broad ligament. In a brief time it would have ruptured and infectious inflammation of the broad ligament followed; then ulceration through the posterior layer of the broad ligament would have occurred. Soon would have followed the pouring of pus into the space between the folds of the ligament and a violent inflammation of all the tissues of that structure, and finally the formation of a large abscess rupturing into the vagina, rectum, or pelvic cavity.

Here is certainly indicated one of the ways in which pyosalpinx may lead to the formation of large abscesses and to general infection of the pelvic and abdominal cavities.

A CASE OF
COMPOUND COMMINUTED FRACTURE OF THE PATELLA INTO THE KNEE JOINT.*

By M. T. SCOTT, M. D.,
LEXINGTON, KY.

On December 28, 1889, I was summoned four miles into the country to see W. C. P., aged thirty-seven, who gave the following history:

Two hours previous he was sitting on the front of a two-horse wagon, with legs flexed at right angles on the thighs. While in this position he struck the off horse of the team with a whip; the animal jumped forward, snapped the trace chain, and at the same time kicked viciously. The horse had on the previous day been rough shod, the calks on the hind shoes being very long and wedge-shaped. The calk struck the patient a quarter of an inch below the center of the right patella, causing a transverse wound half an inch wide.

The use of an aseptic probe revealed a puncture of the patella with comminution, together with a transverse fissure. Grasping the upper half with the fingers of one hand and the lower segment with the fingers of the other hand, a distinct but slight crepitation with motion was detected. There was, however, no material separation, as the periosteum was but slightly lacerated. The point of the heel of the shoe had penetrated the knee joint, as was shown by the passage of an aseptic probe three inches down in a vertical direction. Pressure over the lateral and posterior aspects of the joint forced out a considerable amount of bloody synovial fluid and air bubbles, the presence of air in the joint being due to the patient's attempts to walk and his endeavors to estimate the amount of injury immediately after its infliction.

Realizing that I had to deal with a compound, comminuted fracture of the patella, complicated by an open wound of the knee joint, I proceeded to treat the case on aseptic principles. The surrounding tissues were thoroughly cleansed. The external wound was enlarged half an inch. Small detached fragments of patella were removed with aseptic instruments. The joint was copiously flushed with bichloride solution, 1 to 3,000, until the fluid came away clear. No drainage was used. The external wound was closed with catgut and dressed with iodoform and bichloride gauze. A long, straight posterior splint was applied from the gluteal fold to the foot.

Twenty-four hours after the operation the pulse was 86 and the temperature 99°. The recovery was rapid and uneventful. At no time did the pulse run higher than 92 or the temperature rise above 99·5°. The wound healed kindly by the first intention without any suppuration whatever. A slight effusion into the joint was noticed at the first dressing, which was on the eighth day. This rapidly subsided and gave rise to no trouble. On the twenty-fourth day the splint was discarded and passive motion commenced. Seven weeks after the injury the patient reported at my office, walking with a cane. Extension was perfect and active flexion existed to a right angle. An adherent scar across the patella and a depression barely perceptible were the only sequelæ of the previous injury. Since then I have examined the joint and find all motions normal. No lameness.

In closing the report of this, which to me has been an interesting case, I would say that the patient was far from being a stout man and one in whom we should hope to see a vigorous display of that beautiful power which our forefathers were pleased to style the *vis medicatrix naturæ*. He was a sufferer from chronic diarrhœa with prolapsus recti. An inability to empty his bladder occasioned a constant dribbling of urine, which necessitated the use of a urinal. Chronic cystitis, the cause of which he refused to have investigated, occasioned ammoniacal urine, alkaline and foul smelling, which did not aid us in our endeavors to secure cleanliness and an aseptic condition.

The Eyes of Eye Surgeons.—"At the dinner of the Ophthalmological Section of the International Medical Congress at Berlin, Professor Hermann Cohn, of Breslau, showed a collection of autographs of the oculists who had taken part in the annual meetings at Heidelberg for twenty years, which was made specially interesting by the fact that opposite each name the signatory's visual power with the right and left eye respectively was indicated. Among other celebrities who figured in this list were Arlt, Horner, the elder Critchett, Schweigger, and Knapp. Among 44 oculists tested, visual acuity was normal in 32, over the normal in 10, and under it in 2. Twenty-eight, or 61 per cent., were short-sighted; the concave glasses required varied between Nos. 5 and 24, the average being 20, so that the myopia of the distinguished ophthalmologists in question was, as a rule, moderate in degree."—*British Medical Journal.*

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* Read before the Mississippi Valley Medical Association at its sixteenth annual meeting.

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NEW YORK, SATURDAY, NOVEMBER 8, 1890.

PASTEURISM BEFORE THE ACADEMY.

It was really Pasteur's system of preventive inoculation that was under discussion at the New York Academy of Medicine on the evening of October 16th, although various aspects of the subject of rabies were made the theme of remarks, even the question of the existence of that disease. The few who have always maintained that there was no ground for regarding rabies as a disease *sui generis* seem to have been re-enforced to a certain extent by the carpers who assert that no such number of cases as recent reports have enumerated can possibly have occurred. The two classes together have been able to keep up enough opposition to the beneficent practice of antirabietic inoculation to breed some distrust of it among the public, and even to influence professional opinion against it in a measure, as is exemplified by the fact that many well-known medical journals have shown an inclination to discredit it. But what is there for the cavilers to stand on? To say that there is no such disease as rabies argues, to our mind, the possession of a child-like simplicity worthy of the votaries of "Christian science," or of those wiseacres who are fond of repeating, whenever dread of any epidemic disease is expressed, the vulgar dictum that a person is safe enough from pestilence if he is not afraid of it, ignoring the mortality caused by it among infants, who of course have no dread of disease. Little more worthy of consideration is the criticism that the number of cases of rabies reported since Pasteurism came into vogue is ridiculously out of proportion to the numbers reported in previous times. From no point of view could this objection be held to be cogent, for it does not touch the real question, but at most could only operate to discredit the reporters' accuracy. Perhaps rabies has been unusually prevalent in France during the past few years, but, if it has not, the great popular interest in it that has been brought about by the adoption of Pasteur's system may well have given rise to increased diligence in discovering and reporting the cases. We can not admit that the cases reported are so numerous as to preclude their being accounted for in this way. But, allowing that the figures are exaggerated, the admission proves only either that Pasteurism has not saved quite so many lives as the reports show, or else that the figures have been falsified purposely or ignorantly, and therefore that their promulgators are open to the verdict *falsus in uno, falsus in omne.* This last is probably what is sought to be implied, but the implication may well be disregarded by Pasteur and his associates. The results of their inoculations are in no wise influenced by the degree of their accuracy or honesty in collecting statistics. The plain fact remains that hundreds of persons bitten by animals unquestionably rabid have escaped the disease. It will not do to say that only a certain percentage of such persons are infected, for nothing like that percentage of infection has obtained among the exposed persons on whom Pasteurism has been tried.

This expresses what we have maintained ever since the practice was begun, but its opponents have been persistent and talkative, and we confess to much gratification at the general drift of what was said at the Academy's meeting. In particular, it strikes us that Dr. Dana's paper on The Reality of Rabies shows such a spirit of fairness and such close reasoning as must go far to silence the last sputter of incredulity, or as would, at least, if men were influenced more by reason and less by prejudice or an innate propensity to oppose whatever is new. Unfortunately, doctrines that tend to overturn established dogmas and practices always have to contend against very much the same kind and degree of opposition, but they invariably become established on a basis all the more solid, and it is therefore not a matter for unmitigated regret that Pasteurism has had to encounter the same obstacles.

THE NEW YORK STATE MEDICAL ASSOCIATION.

It is now seven years since this organization was started. It owed its origin to an irreconcilable disagreement between its founders and their fellow-members of the Medical Society of the State of New York—a disagreement having reference solely to ethical declarations. The division was a matter of regret at the time, and certainly it entailed upon the physicians of the State a weakening of their influence in a corporate capacity. In no other way, however, has it proved injurious; as regards scientific work, it has been in a high degree beneficial. Both societies have constantly issued programmes overflowing with titles of important contributions by men high in the esteem of their fellows. There is no enmity between them, but only a wholesome emulation. The State is large and populous, and perhaps it is best that it should have two medical societies, for meetings much larger than each of them now holds would probably prove unwieldy. This would breed apathy, and stagnation would be in danger of following.

The new association has unquestionably been well managed. We have always held that it had a great advantage in the fact that it held all its meetings in New York. This advantage is now supplemented by its acquirement of permanent quarters for its library and for other purposes. There is something tangible about an organization occupying a building of its own. Perhaps another advantage is to be found in its district branches, holding meetings at various times during the year and having a closer connection with the association than the county societies have with the old organization. Moreover, the pride of the members must have been stimulated by the handsome and well-edited annual volumes of transactions published by the association. It will be seen that there is no dearth of conceivable reasons for the prosperity and creditable career of the association, the existence of which, whatever the real reasons may have been, is beyond question. The meetings are of benefit not alone to the members, but in a very high degree to the profession at large in the city, many of whom either attend them or read the published reports; and this benefit can hardly fail to be decidedly enhanced by the establishment of a permanent home for the association.

MINOR PARAGRAPHS.

THE SPECIFIC PATHOLOGY OF CANCER.

A recent number of the *Proceedings of the Royal Society* contains an article by Dr. C. A. Ballance and Dr. S. G. Shattock on experimental investigations into the pathology of cancer. Their object was to find out if any special micro-organisms could be cultivated from malignant tumors, as had been done from tubercle and the pathological formations of certain other infective diseases. The experiments were made with three lipomata, one myxoma, three sarcomata, and about thirty carcinomata. The results obtained, both in the cultivation and in the transplantation, were entirely *nil.* Notwithstanding such results, the authors did not think the evidence from analogy that cancer was probably micro-parasitic in origin was entirely overthrown, but that it was possible that the micro-organism of cancer did not belong to the *Protophyta*, but to the *Protozoa*, in which case the difficulty of artificial culture would be easily explained; and the enormous rapidity of cell growth in cancer might be thought of as being induced by a cancerous rejuvenescence setting in as a consequence of the conjugation of the "parasite" with the cell of the normal tissue. The authors had conducted some of their experiments with human blood-serum, but no growth had occurred under sterile conditions, either when the serum had been simply inoculated or when a piece of living cancer tissue had been placed in or upon it.

MICROSCOPICAL STUDIES OF THE BRAIN.

Dr. C. E. Breevor, in the *Proceedings of the Royal Society*, gives the results of some investigations on the course of the fibers of the cingulum, of the posterior parts of the corpus callosum, and of the fornix in the marmoset monkey. The horizontal part of the cingulum was found to consist, not of fibers extending throughout its whole length, but of internuncial fibers coursing between the gyrus fornicatus and the centrum ovale; the anterior part connecting the olfactory nerve with the frontal region, the posterior part containing internuncial fibers between the hippocampi and the inferior surface of the temporo-sphenoidal lobe. Broca's conclusion, that the cingulum was connected with the hippocampal lobule and its contained nucleus, was not confirmed in the present investigation. The superficial fibers of the gyrus fornicatus were found to be a separate tract, and not part of the cingulum. No connection between the fibers of the posterior parts of the corpus callosum and those of the internal capsule, as described by Hamilton, could be found. The median part was traced horizontally backward into the septum between the body and the splenium of the corpus callosum, but was not found to join the cingulum, as had been described by Meynert.

BONE-GRAFTING FROM THE DOG.

On the 15th of October, at the Post-graduate Medical School and Hospital, Dr. A. M. Phelps performed at his clinic the operation of transplanting a large section of the fore leg of a dog into the tibia of a patient suffering from an ununited fracture with bad deformity. The patient had been operated on twice, and all means employed had failed. A medium-sized dog was selected and carefully prepared for the operation. The dog's elbow was excised, and its leg amputated so as to leave a piece of bone long enough to fill in the space between the denuded ends of the patient's tibia. The dog was then lashed to the patient's leg with a plaster-of-Paris bandage, and the bone graft securely wired into the patient's tibia. It was expected that by this procedure the dog's brachial artery would keep up the nutrition of the transplanted part and furnish the material for new bone, which the patient seemed incapable of producing. Dr. Phelps will soon furnish the details of the operation for publication in the Journal.

THE NEW VOLUME OF THE INDEX-CATALOGUE.

The eleventh volume of the *Index-Catalogue of the Library of the Surgeon-General's Office, United States Army*, has just been issued. It contains the fourth addition to the alphabetical list of abbreviations of titles of medical periodicals, and carries the vocabulary from Phædronus to Régent. The work, it will be seen, is nearing its end. When its publication was begun the fear was entertained, not unnaturally, that one man's lifetime would hardly suffice for its completion, but such a foreboding may now be regarded as practically dispelled; Dr. Billings is still in the prime of life and will yet be at the height of his powers when he gives us the concluding volume. If the medical profession needed any reminder of the immense service he has performed for its literature, each of the volumes as it appears would serve the purpose amply.

PRECAUTIONS AGAINST LUNATICS.

It is to be hoped that the late Dr. Lloyd did not die in vain. The Grand Jury of Kings County has censured the State Commission in Lunacy for countenancing the practice in asylums of registering patients as "discharged" when they have escaped. It has also censured the officials of the Kings County Insane Asylum for the laxity displayed in the case of the lunatic who killed Dr. Lloyd, and recommended the employment of a police force in the asylum.

AN ISLAND FOR INEBRIATES.

At the Berlin Congress Dr. Karl Kahlbaum stated that one very serious error had often been made in the treatment of inebriety, namely, that the patient was not kept long enough under observation to make sure of his real cure. Improvement was too often mistaken for and reported as cure. He proposed that the Government should set apart an island for dipsomaniacs solely.

SIGNOR SUCCI.

This gentleman, who has entertained the residents of several European cities—or at least secured a portion of their attention—by prolonged abstinence from food, is now in New York, and is advertised to fast for forty-five days. Just what there is about such a performance to attract spectators we shall not undertake to say, but we do not doubt that there is something.

THE NEW YORK ACADEMY OF MEDICINE.

The programme for the meeting on Thursday evening of this week consisted of reports of so-called "delegates" to the Tenth International Medical Congress—eleven in number. It is well known that these congresses are not made up of delegates. It was therefore a work of supererogation for the Academy to appoint them, and to devote a meeting to their "reports" seems to us to argue such a lack of legitimate material as ought not to be encountered at this time of the year.

THE BALTIMORE MEDICAL AND SURGICAL RECORD.

This is the title of a new monthly journal, owned and edited by Dr. T. H. Graham. The first number, for October, contains forty-two pages of reading matter, and is embellished with an excellent portrait of a well-known physician of Baltimore, Dr. H. P. C. Wilson. The number includes articles by Dr. E. S. McKee, of Cincinnati, and Dr. Frank West, Dr. W. J. Jones, Dr. William B. Canfield, and Dr. George H. Rohé, of Baltimore.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 3, 1890:

DISEASES.	Week ending Oct. 28.		Week ending Nov. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	37	7	25	6
Scarlet fever	42	1	39	1
Cerebro-spinal meningitis	0	0	2	1
Measles	82	6	97	6
Diphtheria	67	21	54	17
Varicella	1	0	5	0

A Death during Etherization occurred at the Brooklyn City Hospital on October 29th. The patient, who was about to undergo an operation for necrosis of one of the bones of the foot, had been sick for a long time, but a careful cardiac examination before the operation was decided upon showed no contra-indication to etherization. About four drachms only of the ether had been administered when respiration suddenly ceased, and a few seconds later the heart's action became imperceptible. Approved means of resuscitation were diligently employed by the house staff for two hours, but without avail.

The Medical Colleges of Baltimore.—The *Baltimore Medical and Surgical Record* announces that the new building of the College of Physicians and Surgeons will be ready for the coming term, and that the class is a large one. The same journal states that a story has been added to the building of the Baltimore Medical College, with fully equipped laboratories and a well-arranged dissecting room.

The Death of Dr. Gustave Monod, of Paris, formerly a professor of the Faculty of Medicine, is announced as having taken place on the 21st of October. He was eighty-six years old.

The New York Academy of Medicine.—At the next meeting of the Section in Pædiatrics, on Thursday evening, the 13th inst., Dr. Walter Mendelson will read A Note on How to obtain the Best Practical Results with a Milk-sterilizer, and Dr. J. Lewis Smith a paper on Peritonitis in Infancy and Childhood.

Dr. C. Eugene Riggs, of St. Paul, Minn., a commissioner in lunacy of that State, was given a reception last Saturday evening at the house of Dr. Landon Carter Gray, of New York.

The American Academy of Medicine will hold its annual meeting in Philadelphia on Wednesday and Thursday, December 3d and 4th.

The Harlem Medical Association.—The programme for the second regular meeting, on Wednesday evening, the 5th inst., included the presentation of patients by Dr. J. G. Truax and Dr. E. Fridenberg, the presentation of a ruptured ectopic gestation sac by Dr. T. H. Manley, and the reading of a paper on Ectopic Gestation by Dr. F. H. Daniels.

Changes of Address.—Dr. Alexander Duane, to No. 11 East Thirtieth Street; Dr. Max Einhorn, to No. 120 East Sixty-fourth Street; Dr. William J. Morton, to No. 19 East Twenty-eighth Street.

The Death of Professor von Nussbaum, of the University of Munich, occurred on the 31st of October. The deceased was sixty-one years old. He is reported to have been ill for the past year as the result of an attack of influenza.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 26 to November 1, 1890:*

Cowrey, Stevens G., Surgeon, is granted leave of absence for one month, with permission to apply for an extension of fifteen days, to take effect upon the arrival of Acting Assistant Surgeon A. P. Frick at Fort Marcy. Par. 2, S. O. 112, Department of Arizona, Los Angeles, Cal., October 24, 1890.

By direction of the Secretary of War, the following changes in the stations of officers of the medical department are ordered:

Woodruff, Charles E., First Lieutenant and Assistant Surgeon, is relieved from duty at Fort Gibson, California, and will report in person to the commanding officer, Fort Missoula, Montana, for duty at that post, relieving De Witt, Calvin, Major and Surgeon. Major De Witt, upon being so relieved, will report in person to the commanding officer, Fort Hancock, Texas, for duty at that post. Par. 6, S. O. 249, A. G. O., Washington, D. C., October 24, 1890.

Ewing, Charles B., Captain and Assistant Surgeon. By direction of the Secretary of War the leave of absence granted in S. O. 131, September 22, 1890, Department of the Missouri, is extended fourteen days. S. O. 250, A. G. O., October 25, 1890.

Edie, Guy L., Captain and Assistant Surgeon, is granted leave of absence for one month, on surgeon's certificate of disability, Fort Douglas, Utah. S. O. 80, Headquarters Department of the Platte, Omaha, Nebraska, October 27, 1890.

Wales, Philip G., First Lieutenant and Assistant Surgeon, is relieved from station and further duty at Fort Huachuca, Arizona Territory, and assigned to duty at San Carlos, Arizona Territory, where he is now temporarily serving. Par. 13, S. O. 254, A. G. O., October 30, 1890.

So much of Paragraph 2, S. O. 208, A. G. O., September 5, 1890, as directs Jarvis, Nathan S., First Lieutenant and Assistant Surgeon, to report for duty at San Carlos, Arizona Territory, is revoked. On the expiration of his present sick leave of absence, Lieutenant Jarvis will report in person to the commanding officer, Fort Bayard, New Mexico, for duty at that station. Par. 13, S. O. 254, A. G. O., October 30, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 1, 1890:*

Stephenson, F. B., Surgeon. Detached from the Receiving-ship Wabash and to wait orders.

Martin, H. M., Surgeon. Ordered to the Receiving-ship Wabash.

Stone, Lewis H., Assistant Surgeon. Ordered to the U. S. Steamer Pinta.

Arnold, William F., Assistant Surgeon. Detached from the U. S. Steamer Pinta and granted two months' leave.

Owens, Thomas, Surgeon. Detached from the Coast Survey Steamer Blake and to wait orders.

Blackwood, N. J., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

Bogert, E. S., Assistant Surgeon. Detached from the U. S. Receiving-ship Vermont and ordered to the Coast Survey Steamer Blake.

Moore, A. M., Surgeon. Detached from the U. S. Steamer Kearsarge and ordered to the Naval Hospital, Mare Island, Cal.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service from October 6, 1890, to October 25, 1890:*

Hutton, W. H. H., Surgeon. Detailed as chairman, Board of Examiners, revoked; ordered to Washington, D. C., for temporary duty. October 14, 1890.

Wyman, Walter, Surgeon. To inspect quarantine stations. October 14, 1890.

Long, W. H., Surgeon. Detailed as chairman, Board of Examiners. October 14, 1890.

Sawtelle, H. W., Surgeon. Granted leave of absence for five days. October 13, 1890.

Gassaway, J. M., Surgeon. Granted leave of absence for thirty days. October 11, 1890.

Irwin, Fairfax, Surgeon. Detailed as recorder, Board of Examiners. October 14, 1890.

Ames, R. P. M., Passed Assistant Surgeon. Granted leave of absence for thirty days. October 14, 1890.

White, J. H., Passed Assistant Surgeon. Granted leave of absence for thirty days. October 24, 1890.

Pettus, W. J., Passed Assistant Surgeon. To proceed to Vineyard Haven, Mass., for temporary duty. October 9, 1890.

Perry, T. B., Assistant Surgeon. Ordered to examination for promotion. October 9, 1890.

Kinyoun, J. J., Assistant Surgeon. Ordered to examination for promotion. October 10, 1890.

Condict, A. W., Assistant Surgeon. To proceed to Baltimore, Md., for temporary duty. October 18, 1890.

Resignation.

Ames, R. P. M., Passed Assistant Surgeon. Resignation accepted by the President, to take effect November 15, 1890. October 14, 1890.

Society Meetings for the Coming Week:

Monday, *November 10th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt, Medical and Surgical Club (annual); Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *November 11th:* New York Medical Union (private); Medical Society of the County of Rensselaer, N. Y.; Norfolk, Mass., District Medical Society (Hyde Park); Newark, N. J., and Trenton (private), N. J., Medical Associations; Camden, N. J., County Medical Society (semi-annual—Camden); Baltimore Gynæcological and Obstetrical Society; Southern Surgical and Gynæcological Association (first day—Atlanta, Ga.).

Wednesday, *November 12th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Pittsfield, Mass., Medical Association (private); Worcester, Mass., District Medical Society (Worcester); Philadelphia County Medical Society; Southern Surgical and Gynæcological Association (second day).

Thursday, *November 13th:* New York Academy of Medicine (Section in Pædriatics); Society of Medical Jurisprudence and State Medicine; New York Physicians' Mutual Aid Association (annual); Brooklyn Pathological Society; Medical Society of the County of Cayuga; South Boston, Mass., Medical Club (private—annual); Pathological Society of Philadelphia; Southern Surgical and Gynæcological Association (third day).

Friday, *November 14th:* Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *November 15th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Letters to the Editor.

THE SLUR ON THE POLYCLINIC.

267 Madison Avenue, *October 31, 1890.*

To the Editor of the New York Medical Journal:

Sir: I am sure every member of the staff of teachers at the Polyclinic will appreciate the publicity you have, in your issue of last week, given to the "correction of a slur" on this institution.

The *New York Times* on October 11th, as a part of the obituary notice of a most excellent man, a minister of the gospel, respected and loved by all who knew him, so far forgot the dignity and sense of propriety which usually characterize this paper as to include the gratuitous falsehood that death was "from the effect of an amputation of the hip performed in the New York Polyclinic and pronounced at the time to be 'highly successful.'"

I at once wrote the editor asking from what source he had obtained this information. He replied that the notice "was written in this office upon information which I am disposed to believe is thoroughly reliable." To my further inquiry, asking that if I would prove his information to be absolutely false, he would publish a correction as prominently as was published the misstatement, I received no reply.

A day or two later appeared the manly letter from the dead man's father, printed under the title of An Impression Corrected. This letter gave not only the testimony of the father, but of three well-known practitioners in Alabama, who had seen the patient just before his death, that the fatal termination was in no way due to the operation performed eight months before. Dr. J. T. Searcy, of Tuscaloosa, one of the most prominent physicians of Alabama, in answer to my inquiry as to the cause of death, writes: "The operation was a perfect success. The stump was in a perfectly healthy condition at the time of his death. There was no return of the sarcoma in the field of operation or anywhere else in his body. He died of miliary tuberculosis. His consumption was very rapid toward the last."

This case attracted considerable attention, as it was the first one in which my *bloodless method* was employed.

John A. Wyeth, M. D.

THE TREATMENT OF ABORTION.

Seaton, Ill., *October 14, 1890.*

To the Editor of the New York Medical Journal:

Sir: Dr. T. Gaillard Thomas, in a clinical lecture recently, published in the *Annals of Gynæcology and Pædiatry*, and quoted in *The Therapeutic Analyst*, said: "When called upon to attend a case of abortion, there is one of two things that you will have to decide upon at once—whether you can prevent the abortion, and if you can not do this, how to conduct it judiciously to a termination. . . .

"We will assume in this case that the abortion can not be prevented. Under such circumstances it is no more right to stop its pains than it is right to stop the pains of labor at full term. . . .

"We have in abortion hæmorrhage usually going on all the time. I want to give you a remedy for this hæmorrhage, when it becomes severe—a method by which it can be controlled at once.

"This one remedy is the tampon. This is the one great remedy for this condition. One great danger in abortion is hæmorrhage, and the indication is to stop that hæmorrhage. This is the one and only indication to be fulfilled in the beginning, and when you have done this thoroughly you have done your whole duty to your patient."

He then gives a very thorough and effective method of tamponing, and proceeds:

"After some hours, from twelve to twenty-four, take out the tampon, being guided in this by the pain of the patient, and you will then, in the majority of cases, have brought the abortion to a successful termination."

This is no doubt classical and efficient, and sufficiently dogmatical. I would not criticise it as one method of treating abortion; but it is not the only method, nor, to my mind, is it the best way. I will report my method.

When called to a case of unpreventable abortion, after proper purification I proceed at once to rid the vagina of clots. I next make a digital examination of the os uteri, and if, as is frequently the case, I find the products of conception presenting at the external os, I bring them away with the finger.

If they are not presenting at the external os, or, if presenting, only a part comes away, I thrust my forefinger through the cervical canal into the cavity of the womb. I next bring the womb forward if necessary with the finger in it, and with the other hand steady the uterus and make pressure downward. I then proceed to disengage the placenta. Having done so, I bring away, with the finger, all the products of conception, and rid the vagina of any remaining clots, and the case is terminated.

In order to reach the fundus with the finger it is often necessary to push the hand entirely inside the vagina. This I have never had any great difficulty in doing. After the hand has passed into the pelvic cavity, there is no special complaint of discomfort.

I now give half a teaspoonful of Squibb's fluid extract of ergot, and direct it to be given in twenty-drop doses every four hours, or more frequently if necessary to control hæmorrhage, for twenty-four or forty-eight hours.

I next impress upon the patient's mind the importance of keeping quiet in bed for a week or ten days, direct her to keep her person and bed scrupulously clean, to keep her bowels open with mild laxatives, to sit on the chamber when passing urine, and to take her accustomed food.

In conclusion, what may be said of this method?

1. It is sufficiently simple.
2. It is not very difficult.
3. I have found no great difficulty in passing the finger into the uterus at the fifth or sixth week of pregnancy.
4. It is the best method of arresting the hæmorrhage; it ceases or becomes practically harmless as soon as the finger has passed the cervix, especially if the finger fits the cervical canal tightly.
5. It saves the woman the hours of exquisite suffering of the uterine contractions and the blood-pressure of the tampon.
6. It terminates the case in about the time it would take to make ready the tampon.
7. In a fair experience of over twenty-two years I have not met with a case in which it failed, or a case in which there were after-complications.

Thomas A. Elder, M. D.

DR. GIBIER'S THEORY OF TEMPERAMENTS.

111 Warwick Street, Brooklyn, *October 22, 1890.*

To the Editor of the New York Medical Journal:

Sir: On reading the article of Dr. Paul Gibier, on A New Theory about Temperaments, in the Journal for October 18, 1890, it occurred to my mind that the well-known therapeutico-chemical fact—namely, that acids check acid secretions and increase alkaline secretions, also the reverse—played an important rôle here.

1. As it is in the alkaline subjects that tuberculosis is common, not in the acid subjects.

2. It requires alkalinity to favor the growth of the tubercle bacillus; acids even diluted to thousandths will destroy it.

3. Children of tubercular parents are oftentimes healthy through life and show no disposition to develop tuberculosis, but the children of these again are tubercular without cause, except the diathesis.

4. Has not the temperament, if taken according to the theory of Gibier, something to do with the development of tuberculosis in alternate generations? Say, first, alkaline parents have acid children and the reverse in a tubercular generation, whereas an acid and an alkaline parent have neutral children.

5. Could not tuberculosis lie dormant in persons, and when the opportunity of acid or equal temperaments or acid tubercular parents arrives, produce alkaline or tubercular children?

The same may be said of other diseases.

Will some one with a wider range of experience than myself give this further investigation if he thinks it worth while, for the benefit of medical men and sanitarians as well as the tubercular race or generation?

C. A. von Urff, M. D.

Proceedings of Societies.

NEW YORK STATE MEDICAL ASSOCIATION.

Seventh Annual Meeting, held at the Mott Memorial Hall, New York, October 22, 23, and 24, 1890.

The President, Dr. John G. Orton, of Binghamton, in the Chair.

The Chairman of the Committee of Arrangements, Dr. J. G. Truax, in his report formally welcomed the association to its occupation of a new home and library at the Mott Memorial Hall, recently acquired for permanent use.

The Report of the Secretary contained pointed reference to the New York State Medical Examination Bill, which had recently become law. He stated that every pressure, by argument and remonstrance, had been brought to bear upon the Governor to withhold his signature, upon the ground that the bill had not been duly considered in the Senate and that its clauses were unjust and one-sided. The tenor of the reply to this appeal was that the Governor must assume the bill to have been duly considered in committee, and that if exception was taken to it another bill in modification could be sent up next year.

The President's Address.—The President congratulated the association on having at last acquired a home for its members and its library. He then considered at some length the question of educational preparation for the profession. He said that while upholding the principle that medical colleges should demand proof of adequate preliminary education from would-be medical students, he was not prepared to go so far as to say that the possession of academic degrees should be demanded as a *sine qua non* of qualification for entering upon a medical course. He did not believe that the colleges of this country were below par. There was every evidence that they were steadily raising the standard of excellence in the educational pabulum. They were really better adapted to the requirements than those of the old country. The unfortunate phase of the situation was that the colleges had not shut their doors against inadequately prepared students. The speaker then paid unqualified tribute to the value of medical journals, which he said had assumed a proportion and weight of character unequaled in any other branch of science or art. To-day a subscription to a reliable medical journal was an investment which would repay with interest many times compounded. He advocated the establishment of local boards of sanitation, the business of which should be to formulate principles of sanitary science for the people, for publication in the secular press, which would enable them to intelligently guard against preventable disease.

Prognostics in Medicine.—Dr. John Cronyn, of Erie County, read a paper on this subject. In the course of an extended review of points for prognosis he touched upon the question of treatment. He thought that prognosis in cases of apoplexy could now hardly be as favorable as when bloodletting was more in vogue. Pneumonia was not as low in the mortality tables as the vaunted progress in medical science would seem to warrant.

New Method of Treatment for Retro-displacements of the Uterus with Adhesions.—Dr. A. P. Dudley, of New York County, described his present method of surgical treatment for certain forms of the above condition. After a review of the various methods for correcting this lesion recently in vogue, he narrated the details of his operative procedure in a case of diseased ovaries and tubes. He opened the abdomen, broke up the adhesions about the uterus, and then taking the left ovary and tube, he drew them up through the abdominal incision and saw that the fimbriated extremity was open. He then took a piece of No. 27 silver wire, slightly pointed at one end, which he gently passed through the entire length of the tube, demonstrating it as pervious. The ovary, which contained several cysts, was then tapped with a spear pointed needle by passing the needle directly through the organ and squeezing the water out. The sacs were then allowed to fill with fresh blood. The tube and ovary were dropped back and the right side was treated in the same manner. An assistant then placed two fingers in the vagina and lifted the uterus as high as possible in the pelvis. The operator was thus enabled to bring the uterus close up to the abdominal incision. With a pair of delicate scissors he then denuded the peritonæum from the anterior wall of the uterus, the surface thus freshened being of an oval shape. Care was taken not to go too near the bladder. Then each round ligament was brought up and a portion of the peritoneal covering upon the inner side denuded to correspond with that upon the uterus. With a continuous suture of catgut he then sewed these denuded surfaces together. The sutures were passed deep enough to secure against their cutting out before union took place. The uterus was then dropped back, and the traction upon the round ligaments immediately drew the organ into a position of anteversion, the sutured surfaces lying in apposition to the posterior surface of the bladder. He did not introduce a pessary, preferring to allow the work to rest upon its merits. The advantages of this operation were threefold: 1. It shortened the round ligaments, without sacrificing any part of them, sufficiently to hold the uterus in a position anterior to the perpendicular line of the body. 2. Denuding and firmly fastening the round ligament to the anterior surface of the uterus thickened and gave extra support to the latter. 3. The uterus was maintained in a normal position without fastening any of it to the anterior abdominal wall, a position which he thought Nature never intended it to occupy.

This operation the speaker maintained presented the following advantages over hysterorrhaphy or Alexander's operation: 1. It corrected the displacements by utilizing the natural supports of the uterus without sacrificing any of them. 2. The proper diaphragmatic action of the pelvic floor was not interfered with. 3. The bladder was not imprisoned and its proper action was undisturbed. 4. There was no chance for intestinal adhesion about the line of suture, for the latter lay in apposition to the posterior surface of the bladder, and adhesion taking place at this point simply elongated the utero-vesical junction. 5. In case of impregnation, the uterus was free to rise in the abdominal cavity naturally. 6. The use of the catgut suture did away with the danger of the formation of sinuses by the ligature. One of his objects in performing this operation had been to save the ovaries, for he had come to believe that more was taken out than should be. He had operated in the manner described four times, and he thought this was enough to demonstrate that it was possible to attack the cysts in the ovaries and still not have any trouble in the tubes and ovaries after the laparotomy.

Discussion on Intracranial Lesions.—This subject was considered by various speakers under the following subdivisions:

The present means of localizing intracranial lesions.

The nature of the chief intracranial lesions (hæmorrhage, abscesses, tumors), and how can they be discriminated.

The indications and contra-indications of operative interference in cases of intracranial lesions.

The best modes of operating in cases of intracranial lesions.

The immediate and also the remote results of operative treatment in cases of intracranial lesions.

Dr. W. W. Keen, of Pennsylvania, prefaced his remarks by the exhibition and description of a new Rolandic-fissure meter, with radiating arm and index built after the manner of the cyrtometer, and the design of Horsley, of England. The indications for operative treatment in brain lesions, he said, should be based on careful observation of the peculiar physical characteristics, the mechanical depressions, and functional disturbances.

In the course of an elaborate survey of the whole clinical aspect of the subject from an operator's point of view the speaker emphasized his opinion that if a lesion could be located and distinguished from other conditions which might produce more or less similar phenomena, and if the general clinical indications were such as pointed to the necessity for operative treatment, then it was the duty of the competent surgeon to open the head. The head had been too long regarded as something apart and different from other portions of the body, and he would urge that it should be made to fall into line with other cavities, subject, as it was, to the same diseases and injuries. The methods of treatment might require modification in detail, but should be the same in principle.

Dr. J. J. Putnam, of Boston, drew attention to the relative value of certain so-called localizing signs of cerebral tumors, especially such tumors as lay a little outside the familiar areas of the central, temporal, and occipital zones, and only impinging upon them, so that the symptoms to which they gave rise would be liable to occur rather late in the progress of the case. There were cases which, obviously for more reasons than one, were relatively unsuited for surgical treatment. It was generally admitted as a clinical principle that the monoplegias and localized paralyses were more valuable as localizing signs than the monospasm or localized convulsions. Those functions of the brain which were relatively of a highly specialized and complex character were more likely to suffer disturbance than the less highly specialized and complex or more fundamental functions. There must be few tumor operations in which the convolutions near the growth were not found more or less displaced, and often they were broadened to twice their natural size or flattened to the thickness of cardboard. There were cases, however, where this error was of importance—those, namely, where convolutions were excited by pressure transmitted from a considerable distance, or by œdema and anæmia. This had occurred in a case of the author's. Unilateral neuritis had been held as being significant in indicating the pressure of a tumor of the opposite side of the brain. But the reverse of this condition was true in the author's case of tumor of the middle frontal convolution, so that this sign was really of very little value. No one interested in cerebral localization could have failed to notice the experiences of Schaeffer and Mauk in showing that infinite movements of the eyes and the eyelids were represented in the posterior limb of the angular gyrus and in the occipital lobes, the connecting tracts reaching the oculo-motor nuclei not indirectly through the Rolandic area, but by direct paths.

Dr. J. B. Roberts, of Philadelphia, thought that, though many lives had undoubtedly been saved by judicious surgery about the head after fractures, still the impulse given to rush into operations in this region had done a great deal of harm. He was glad that the pendulum was swinging the other way. Traumatic cases offered the best prospect of good results, and probably many patients died who could have been saved by timely operative interference.

Dr. C. K. Mills, of Philadelphia, said the causes of failure in the present method of localizing intracranial lesions were due to a variety of circumstances, and might conveniently be arranged into several classes. First, by giving too much weight to certain classes of symptoms, which were regarded as determinative of the site of the lesion, as, for example, the so-called signal or initial symptoms; second, by considering only symptoms of late invasion, as in the case of lesions growing from latent to active areas; third, by giving relatively too much importance to motor localizing symptoms; fourth, by overlooking multiple or diffused lesions; fifth, by operating for incurable cases of arrested development. The so-called signal or initial symptom, while of great value, had proved sometimes a misleading light. The motor signal symptom had been made use of in a large number of cases to guide the surgeon, sometimes successfully, but, the author was almost inclined to say, almost as often not so. It must be remembered that in every case of unilateral or monospasm, whether reflex, dural, nephritic, toxic, or hysterical, the spasm really or apparently began with an initial symptom in the limb or face. This might indicate that the beginning of the cerebral discharge occurred in the area of the cortex, which was the seat of the representation of the movement, but it would be unwise to operate with such indications. Occasionally conjugate deviation of the eyes and head had been used as a guide to operative procedure. This was one of the errors into which a thoughtless or badly informed neurologist might sometimes be led. In making a diagnosis as to the existence of hæmorrhage, we must depend more largely upon general symptoms. What was true of tumor in this respect was still more strikingly true of abscess. A number of mistakes had been made in cases of trephining for tumor or abscess by the operator being guided too much by motor symptoms, which were really the result of the diffusion of the lesion to the motor areas. In the analysis of the symptoms with a view of deciding as to operation, too much stress was sometimes placed upon motor symptoms, particularly on more or less circumscribed spasmodic manifestations. In not a few cases of cerebral abscess, sensory or special symptoms might decide in favor of operating, and at the same time might not properly guide to the seat of operation. All active localized symptoms of the brain, the result of mastoid or aural disease, unless it was word-deafness and left-sided affections, were the result of the extension of the purulent process. Several mistakes had been made in cases in which large lesions, either in the frontal or temporal lobe, had caused prominent motor symptoms by pressure either upon the motor tracts in the capsule or upon the cortical areas of these tracts. In one case of this kind the symptoms all pointed to brachial crural monoplegia, due to tumor and intercurrent hæmorrhage. The autopsy showed a tumor, with large hæmorrhage in the right temporal lobe, and strictly confined to this lobe, but evidently causing great pressure. Several recorded failures had been the result of overlooking the pressure of multiple or diffused lesions. Operating in cases of tubercular disease of the brain vessels or membranes had also been another source of error and cause of failure. It was an error, at least in the majority of cases, to operate guided by certain localizing phenomena of the spastic and paralytic, congenital and early infantile affections.

A careful review of the surgical operations guided by localization rule, in whole or part, showed that probably the greatest success during the last few years had been trephining for endocranial hæmorrhage. Occasional failure had resulted in traumatic cases, and for several reasons. In the first place, the fact was not fully considered that, in many cases of depressed or non-depressed fractures, hæmorrhages took place not only at or in direct connection with the place of injury, but also at various positions more or less remote.

Dr. J. D. Bryant, of New York County, in considering the question as to the present means of localizing intracranial lesions, limited the term lesion to abscess, hæmorrhage, depressed bone, and tumors of intracranial origin. The present means of localizing these lesions could be classified for convenience' sake as topographical, physiological, and instrumental. The topographical related to the connection existing between certain established landmarks and lines of the cranium that were found to bear a decided relationship to superficial parts of the encephalon, many of which parts had had definite functions assigned to them already. The physiological means related to the establishment of the site of a pathological process by studying the derivation of the function of a part from the normal, as the result of a local disease or injury. The instrumental means were largely subsidiary and their application was often more of an experimental than of a practical character. The speaker then further dealt with the question by the recitation of cases having direct bearing on the subject. Among the most important deductions were: 1. That a small and presumptively circumscribed injury of the brain substance at the upper end of the fissure of Rolando might incite an advancing cerebral disintegration sufficient to involve the motor centers associated with this fissure without causing notable constitutional symptoms. 2. That aspiration of the brain as a means of diagnosticating the existence or the situation of an abscess was of uncertain utility, even when a fair-sized needle was used, and that the employment of the ordinary hypodermic appliances for this purpose was entirely unreliable and misleading. 3. That extensive fissure could begin at some distance from the violence causing it, and that its existence might remain unrecognized without an extended exploration. 4. That extensive and fatal vascular complications might be caused at a considerable distance from the seat of an apparently innocent injury of the scalp or skull. 5. That where paralysis, involving the motor areas of the brain, followed an apparently trivial injury of the head, an operation at the seat of the areas was indicated for the purpose of exploration alone. 6. That the removal of a compressed brain clot was not necessarily followed by improvement of the symptoms of compression, and that if the brain did not soon resume the normal relation with the skull, death would ensue as the result. In another of the cases cited the patient had, immediately after being hit over the head with a bottle, lost the power of speaking his own name, but had been able to write it and the name of his assailant on paper. When admitted to the hospital he could not recall his own name or those of many common things. An examination of the injury had disclosed a small circumscribed compound depressed fracture of the skull, located near the lower end of the fissure of Rolando. On the following day the depression was elevated and the aphasic symptoms had all disappeared. The case had impressed the fact that a circumscribed compression, due to traumatic influence, might limit its effects to one motor center only.

Dr. T. H. Manley, of New York County, said it was necessary to divide intracranial lesions into two classes—viz., those of an extrinsic and those of an intrinsic origin; those arising from violence or mechanical influences, and those resulting from pathological changes within the skull. He confined his observations to lesions of a traumatic character, although what was said concerning the changes which lay in the way when those were treated by active surgical intervention would practically apply with slight modification to intracranial formations of a constitutional origin. Cephalic lesions attributable to trauma were commonly of a compound nature, being associated with contusion, laceration or puncture of the scalp with the underlying textures, with fracture or depression of the osseous plates of the skull, and hence we might with propriety designate them cranio-cephalic lesions. Conditions following cranial injuries in which the patients survived had reference to (1) shock, (2) laceration of brain substance, (3) hæmorrhage, (4) inflammation, (5) purulent formation, (6) localized ulceration, breaking down or softening. The utility or justifiability of operative interference depended on a multiplicity of circumstances, which demanded a most careful consideration. It was true that operations were frequently done on patients while in a state of shock and coma; it was also true that diagnosis could not be made at such a time. In a general way, it might be said that fractured or depressed bone of the skull could, when necessary, be expeditiously dealt with by the trephine. It was well known that we might have a laceration or injury to the brain without evident injury to the skull; and, on the other hand, the brain might be injured without symptoms occurring of sufficient gravity to make trephining admissible. The author did not believe in the reimplanting of bone in the skull, and did not think that osseous union took place, thereby leaving the brain susceptible of hernia cerebri. It was needless to say that the dura mater was always exposed to laceration when the large trephine was employed. Hæmorrhage was a symptom considered by many as one of the most dangerous to occur in trauma of the brain, but the author did not see why it should be so. He thought that in many cases, if it were let alone, absorption would take place, and at any rate the trephine in most cases increased the danger. Since the advent of antiseptics, combined with cleanliness, the danger of inflammation arising as a sequela of the trephine was eliminated, though not wholly banished. While with these means the trouble might be avoided, still mechanical irritation or constitutional predisposition often favored inflammatory processes. But meningitis was at times absolutely unavoidable after trephining. The author thought that in traumatic meningitis trephining for the purpose of draining and irrigating was not only useless but almost criminal. In the cases in which the operation had been done for this purpose there was no doubt that life had been shortened. He had never seen abscess follow the use of the trephine. When the use of the trepan was attended with or followed by much laceration of brain substance, or by the division or occlusion of the vascular supply, that part which was exposed thereby gradually disintegrated and was absorbed; insanity might result or recovery ensue. Anæsthetics increased the vascularity of the brain, so that it stood to reason that a brain after trauma should be kept as quiet as possible, and would not be benefited by this anæsthesia. Manipulation at such a time was also bad. The author thought that in many cases of trephining for trauma where death had occurred the anæsthetic had been an important element in the cause. For trephining to be stripped of elements of danger, it required an exact anatomical knowledge and a careful discriminating judgment.

Hypnotism.—Dr. Ernest Schmid, in his remarks upon this subject, said nobody hesitated to admit the influence of the body upon the brain. Eminent alienists maintained that no diseased state of the mind ever existed without a pathological condition of some portion of the brain. Why should we then hesitate to admit the influence of the mind upon the body? The author held that every unconscious imitation was a transfer of a brain movement communicated to another brain in such a manner that the brain which repeated this movement of the first brain adopted it as one of its own originating, and not a repetition. On this rested the great problem of hypnotism. That the view of the contagiousness of brain movements of physical, intellectual, and moral diseases was not a singular one, and was demonstrable among other things by the fact that not a few alienists had formed the belief that mental aberration might be communicated to a sound mind by example and daily intercourse with the insane. There did exist within us a secret force which constantly conformed our thoughts to our actions and our entire inner being to our external habits. The speaker was convinced that the true essence of hypnotism possessed kindred elements to those thoughts. It was the imparting of a brain movement to others or the creating a new one in another which became as the other self-originated thought. That the hypnotic state could be produced was an established fact. Like all other therapeutic measures, it had its circumscribed sphere, but its usefulness was destined to become very great.

Retention of Urine from Prostatic Obstruction in Elderly Men: its Nature, Diagnosis, and Management.—This was the title of a paper by Dr. J. W. S. Gouley, of New York County. (See page 477.)

Dr. J. A. Wyeth, of New York County, said that in cases of persistent cystitis it was his practice to perform suprapubic section; he thought this the best method for dealing with this very obstinate disease. This operation in his hands had given better results than when treated by the urethra. Not only was immediate relief obtained, but a better command of the bladder was possible. He had only been doing this operation the last two years, but in that time about thirty cases had been so treated, five of which were tumors of the prostate, good results being obtained in all. He thought that for prostatic tumors the high operation was by far the best. It was his method in removing such to use the clamp forceps, and, with the fingers at the prostate, gradually to twist them off, using the actual cautery to the stump. Relief had always been prompt, and in only one case did the bladder fail to resume its function. The speaker had found that the oil of gaultheria was the best remedy to prevent the decomposition of urine. He gave it by the mouth, four or five drops, three or four times daily. When this drug was given, the urine would not decompose. The Trendelenburg drainage-tube was the one used, and six to eight weeks was the longest it had ever been necessary to leave it *in situ.*

Dr. Gouley was in full accord with the speaker as to doing suprapubic cystotomy for the removal of prostatic tumors, but he would not do the operation for this alone, but rather incidentally. He believed that in the majority of cases the bladder could best be reached through the urethra, and as for doing the operation for the purpose of cleansing and drainage, it should not be thought of. In cases of contracted bladder from prostatic obstruction, it was the speaker's practice to use hydraulic pressure to dilate, frequently increasing the capacity of the bladder from half an ounce to four ounces. He did not think it necessary to give anything by the mouth for the purpose of preventing decomposition of urine, when we had the means of applying it directly in the bladder.

The Address on Surgery—The Ligature of Arteries.—Dr. Stephen Smith, of New York, said that his paper had been prepared with a view of noticing some of the contributions of American surgeons to the improvement and development in the ligature of arteries. The general surgical history of this work for the cure of aneurysm might be divided into three epochs.

The first came down to 1785, and was known as the old method; the second, or intermediate period, was known as the new method; while that of the third, or present period, was called the antiseptic period. The principle upon which the old method was based was the obliteration of the aneurysmal tumor by freely opening the sac and promoting suppuration. The feature of the operation which had excited most interest among surgeons, and which had led to improvements, was the method of arresting hæmorrhage. At first the open artery was plugged after the sac was incised, pledgets of cotton being sometimes employed. Subsequently the open artery was ligated at the bottom of the sac, and then the sac was closed and allowed to suppurate. Then the ligation was done outside, but close to, the tumor, with the subsequent incision of the sac. Again, ligatures were applied one above and the other below the tumor. Whatever the variation in detail, the operation had always terminated by the opening of the sac. The speaker then went on to trace the steady advance of operative work in this direction. Of the work of Hunter, he said that a review of the surgical literature of that period made it very evident that Hunter's operation was only one step, and not a very long one, in the treatment of aneurysm by operative methods. It had proved that the condition might be cured by the simple ligature of the artery on its proximal side, without incision of the sac and incurring the danger of subsequent suppuration. The suggestion of Brasdor—that the ligature should be applied on the distal side of the tumor—was important, as it had enabled the operator to successfully treat a class of cases in which it was impossible to ligate the main trunk on the cardiac side. Mott had heartily approved of the operation, and the success that had since attended it evidenced that surgeon's practical sagacity. After going very thoroughly over the whole ground in elaborate historical survey and paying graceful tribute to the work of Post, Mott, Rodgers, and others identified with progress in this direction, the author stated that the part borne by American surgeons in the history of the ligature of arteries was most favorable. They had not only been pioneers in enlarging the boundaries of this field of practice, but they had cultivated it with a degree of success unrivaled even by British surgeons. Statistics demonstrated that during the first three quarters of the present century, of sixteen operations upon the innominata, six were done in this country. Of these operations, an American surgeon had performed the first. Of thirteen ligations of the subclavian in the first part of its surgical course, Americans had performed five. An American surgeon had alone ligated the subclavian within the scaleni. It was, however, on the 31st of December, 1868, that an event had occurred which was destined to be the final consummation of all improvement in the ligature of arteries. This was the occasion of the application of ligatures to the carotid of a calf by Mr. Joseph Lister. The ligatures were of two different kinds, and were applied at intervals of about an inch and a half. The cardiac ligature was composed of three strips of peritonæum from the small intestine of an ox, firmly twisted; the distal end was made of fine catgut. Both had been treated with a saturated solution of carbolic acid. The ligatures were cut short, one end being left longer than the other. The wound was completely closed, and it had promptly healed. Thirty days after the operation the parts were examined post mortem. There was an entire absence of inflammatory thickening in the vicinity of the vessel. The knots of the distal ligature had disappeared, and the only indication of the end which had been left long was a black speck here and there upon a delicate cellular tissue in connection with the vessel. The cardiac ligature was continuous in structure with the arterial wall; the short end had disappeared, but the knot was represented by a soft, smooth lump, in the center of which and lying close to the artery was a small residual portion of the original knot, quite distinct from the living tissue around it. Between the proximal ligature and the heart the formation of a coagulum had been entirely prevented by a large vessel taking origin immediately above the part, which had thus borne the brunt of the cardiac impulse for a full month. Clots had been formed on the distal side of the ligature. A more minute examination showed that the material which had been formed at the expense of the ligature was a beautiful example of fibro-plastic structure. At the situation of the distal ligature the structure of the vessel had seemed to be entirely unaffected. The middle coat was neither thicker nor thinner than the neighboring parts. The vessel, so far from showing any signs of giving way, had appeared to have gained additional strength; the encircling ring of new tissue, incorporated with the arterial walls, must have had a corroborative effect. Mr. Lister, in commenting upon this result, had made the assertion that the application of a ligature of animal tissue antiseptically upon an artery, whether tightly or gently, virtually surrounded it with a ring of living tissue, and strengthened the vessel where it constricted it. A more complete revolution in practice could hardly be imagined. Mr. Lister's further assertion that the surgeon might now tie an arterial trunk in its continuity close to a deep branch, secure against secondary hæmorrhage and deep-seated suppuration, had been amply verified. A case in point in the author's experience was that of a man, aged forty, who had suffered from cancer of the tongue, tonsil, and pharynx, and had come under observation at a stage of the disease to avoid the repetition of the hæmorrhages which had already occurred, and of which the patient stood in great dread. The speaker had ligated with carbolized catgut between the divisions of the common carotid and the superior thyreoid branch of the external carotid. The ligature was drawn tightly, but not so firmly as to divide the coats of the vessel. The man dying soon after from inanition and exhaustion due to his disease, it was found post mortem that the operation had accomplished all that was expected of it. The common carotid was perfectly free and without change. At the bifurcation and along the extent of the internal carotid the caliber of the vessels was normal and there was no inflammatory product. At about a quarter of an inch from the origin of the external carotid the caliber of that vessel suddenly diminished, and an eighth of an inch higher it was completely closed. There was no evidence that clot had ever existed. Externally there was a bulbous enlargement at the seat of the ligature. The artery seemed to be encircled by a ring of newly formed tissue, as hard and dense as a cicatrix. The result of the ligature, as a whole, was (1) the closure of the artery immediately by pressure, (2) the closure of the artery permanently by the union of the opposing surfaces of the living membranes, and (3) the strengthening of the artery at the point of ligation tenfold by the formation of an immense ligature of fibrous tissue. Standing upon the present delectable heights, said the speaker, how vain seemed the struggle of the fathers in this branch of surgery! Operations which they had performed only after days and nights of wearisome study and anxiety might now be turned over to the hospital student for his technical improvement.

The Therapeutics of Exophthalmic Goitre.—Dr. E. D. Ferguson, of Rensselaer County, read a paper with this title. Exophthalmic goître, he said, was not a common disease, and yet it was not so rare as to render it a curiosity. Though the disease was one with sufficiently well defined characteristics to allow of its ready recognition, still errors of diagnosis might and doubtless did occur. The fact was that enlargement of the thyreoid body was not peculiar to the disease, and that a frequent pulse was attendant on a multitude of morbid conditions, and occasional prominence of the eyes might be added from causes not the same as the condition determining the development of exophthalmic goître. The conclusion that the condition was not at any rate a pathological unit had been strengthened, in the judgment of the writer, by the results of the use of digitalis, for in every instance in which he had felt confident of the diagnosis that drug had not only failed to afford relief, but was apparently productive of injury. The writer then gave in detail the histories of several cases of exophthalmic goître treated with strophanthus. The administration of this had afforded prompt relief, the patients being able to return to their ordinary occupation. In no instance had either the exophthalmia or the goître been entirely removed, and so far as the latter was concerned, the author would not expect its removal, for when the enlargement had existed for some time it became of so dense or fibrous a consistence as to preclude the idea of its complete removal. There was, however, a notable degree of improvement both in the exophthalmia and in the thyreoid body, but it was impossible to express in mathematical terms the changes in these features of the disease so well as could be done in the rate of the pulse. Not only were the rate and rhythm of the contractions favorably influenced, but in these cases there undoubtedly existed a dilatation of the left ventricle which improved so as to leave no physical or symptomatic evidence of cardiac lesion. Recent pathological considerations tended to place exophthalmic goître in the category of the neuroses, and the locus of its origin in the floor of the fourth ventricle. Still, the evidence was not such as to give any clew concerning its ætiology or treatment, aside from clinical observations, and consequently there was no explanation to offer as to the method by which strophanthus afforded relief, aside from the idea that first suggested its use, and that was to relieve an apparently overtaxed heart through the lessening of the resistance in the systemic circulation which was alleged to be its action. Aside from any theoretical consideration as to the way in which the agent acted, the fact remained that benefit was apparently the direct result of the use of strophanthus—a benefit so notable as to almost justify the announcement of a cure in some of the cases. The only preparation used by the writer was the tincture, given by the mouth, three times daily at each meal, the initial dose being from eight to ten drops, which was increased, if necessary to reduce the frequency of the pulse, to fifteen or twenty, or even twenty five drops. Whether its apparent utility would bear the test of time and larger experience was still problematical. At present it seemed to be our most valuable therapeutic resource in exophthalmic goître.

Dr. Cronyn was glad that the speaker had given digitalis its proper place in the treatment of the disease.

Dr. A. L. Carroll, of New York County, said that he had been impressed with the difference which existed in the preparations of the drug strophanthus now in the market. He thought he had been the first to employ it here after the publication of the first paper on the subject. His case was one of dilatation following valvular lesion. Its action had been practically nil. He had then directed that another preparation should be procured. This had produced marked physiological action after a few doses.

Obstetrics.—This subject was made the basis of special and general discussion, the following questions being propounded:

(1) How may the present prophylactic measures in obstetrics be more extended and applied?

(2) Is the present technique in the management of labor and convalescence in accordance with sound physiology?

(3) To what extent have the surgical means of treatment of labor complications been successful, or should these complications and the process of repair have been more generally left to Nature?

(4) What influence would a more advanced obstetric science have on the biological and social condition of the race?

Dr. S. B. W. McLeod, of New York County, presented the first paper on this subject. He said that as a science obstetrics was conservative, but was pre-eminently progressive as an art. Antiseptics, meddlesome midwifery, and prophylaxis were then fully dealt with. The support of the perinæum was the subject of much consideration. The dorsal and the lateral postures of the patient in labor and the use of bandages had their advocates, and these not a few. It was worthy of special attention that, while there were about one hundred and thirty medicines now before the profession, those that were designated "new remedies," a few of these, perhaps eight, were of use in obstetrics. Ergot as an oxytocic still remained without a successful rival. The tears in ruptured uteri were sewed under antiseptic details, and these lesions always offered prospects of recovery.

Dr. W. McCollom, of Kings County, thought that between extremes there was always a golden mean. Savage and untutored natives did not become extinct by reason of puerperal fever, nor did all the civilized women die because of the amount of bichloride that was thrown into the gaping veins of the recently emptied uterus. In answer to the question propounded, he should say that all medical students should be instructed that if, when in practice, they were called to a case of obstetrics, they should first take a Russian bath, have the hair cut and shampooed, and buy a new suit of clothes. On entering the lying-in chamber, the physician should, if he had touched the door-knob, plunge his hands into a strong solution of carbolic acid or bichloride. Then he should have a steam atomizer at work casting a spray that would act like a Gatling gun on any bacilli that might have come in out of curiosity or with fiendish intent. The bacteria must then be dug from the finger-nails and thrown into the fire. Then, after again washing the hands and face in bichloride, the chemically pure accoucheur might make an examination when the patient told him that the child was coming. The patient should have a constant stream of bichloride thrown on the genitals, or have the nates immersed in a tub fitted to the bed, full of the same material. If the child, when born, should swallow some of the fluid, it would at once kill any bacilli of which it had inadvertently partaken *in utero*. No competent practitioner would allow the child to drown, of course. If the case should be one of breech presentation, a cork should be adjusted within the sphincter ani to prevent the meconial cocci from getting out too soon. The douching or hip-bath should be continued till the placenta was expelled. Then a bichloride pad should be placed over the genitals and they should be hermetically sealed, not to be opened except under like antiseptic precautions. They might think him frivolous, but he had heard as ridiculous teaching from high authority. As a matter of serious fact, he would have everything as clean as possible. The speaker made this the *sine qua non* of all procedures throughout the whole parturient period, whether complicated or not.

Dr. G. T. Harrison, of New York County, said that the most important work of the obstetrician was to see that he did not infect his patient. Vaginal examination should be made only in the interest of the mother and child. The most extreme limitations, and even entire omission of internal examination, might be very well compensated for and replaced by external methods. Of the paramount importance of the thorough disinfection of the hands, and of all instruments, vessels, and clothing likely to be brought into contact with the parturient woman, so-called subjective antisepsis, we were all agreed. Of the necessity for an objective antisepsis, so far as thorough cleansing and disinfection were concerned, there could be no question. A streptococci invasion through so-called self-infection by the natural genital secretions was impossible, and the healthy parturient woman might be regarded as aseptic. Virulent infective germs always came from without. Antiseptic vaginal douches should not be given, therefore, before or during the birth in a normal condition of the pregnant or parturient woman. These were also contra-indicated under the same conditions immediately after the birth and during the puerperal state, as they were not only useless but positively injurious. It must be borne in mind that the course of birth was mechanically retarded by the loss of the vaginal mucus, as one of its physiological functions was to diminish friction and facilitate the passage of the child's head through the canal invested by it. The detachment and expulsion of the placenta from the uterine body into the lower uterine segment occurred spontaneously, and, according to physiological law, required for its completion from five to fifteen minutes. The author would not interfere with the placenta unless there was some obstacle in the way of its complete expulsion, and would not adopt external manipulation. The natural forces were fully adequate to the detachment of the placenta, and there was no necessity of any kind of active interference on the part of the obstetrician to assist the physiological act. In regard to hæmorrhage, Credé's method and Schroeder's modification were not objectionable when properly employed with reference to retained portions of decidua and chorion. Too much emphasis could not be laid upon the importance of an ocular inspection of the external genitalia immediately after the expulsion of the placenta in order to ascertain the existence of any wounds about the vaginal outlet. During the puerperal state two predisposing factors came into play which rendered it comparatively easy for dislocating forces to unfold their efficacy. All the pelvic organs were in a condition of relaxation and the uterus was enlarged and swollen; if, therefore, the patient lay persistently on her back and the bladder was allowed to become distended, and if the rectum, in addition, was left permanently filled, it must follow as a necessary consequence that the fundus uteri was forced backward on the one hand and the cervix was anteposed on the other hand, involution was hindered, and retro-utero-flexio was the result.

Dr. T. J. McGillicuddy, of New York County, thought that the skillful use of the forceps undoubtedly decreased infantile mortality, but its bungling manipulation increased it. It was said that the forceps was applied much more frequently in private than in hospital practice. This was to be deplored, because in many cases the child often lived only a week or two, and generally died from some cerebro-spinal lesion. Episeotomy was an operation which seldom did what was expected of it.

Dr. W. H. Robb, of Montgomery County, thought that we might look forward to the time not far distant when the advance in obstetrical science would furnish the instruments and therapeutic resources by which the most deformed women could be safely delivered of a living child. Obstacles to the safe delivery of the mother resulting from deformity of the child would be surmounted in a similar way. All injuries to the mother resulting from labor would be immediately repaired and any injury to the child would be promptly treated. With these accidents successfully met or prevented we should find at our command resources for the prevention of puerperal diseases. New remedies would be discovered, new methods would be tried until a more advanced obstetrical science furnished means by which the diseases and accidents incident to gestation would be relieved, the changes resulting from difficult labor overcome, and complications of the puerperal state entirely prevented. The race would be benefited by the preservation of many valuable lives. A goodly number of mature and healthy women would be saved. Women who now suffered for years as the result of injury or disease due more or less to the complications of the lying-in state, women who from protracted suffering were rendered almost demoniacal, would be preserved to adorn their natural sphere as ministering angels.

Dr. A. P. Dudley, speaking to the point as to whether the complications and processes of repair should be more generally left to Nature, spoke very emphatically upon the subject of the Cæsarean section. It was a measure, he contended, now very nearly perfect in technical detail. If properly done, he believed it would in time become more successful than craniotomy done when a woman was thoroughly exhausted by her own efforts to expel the child naturally or by the efforts of the physician to do so with the forceps. One of the chief conditions of success in this operation was that it should be begun early, before the patient became too exhausted. He had never given a vaginal douche before the birth of the child, and had never had a case of sepsis. He would suggest that the existence of a condition of pyosalpinx was likely to prove a very fertile source of infection at the time of delivery. In such event the uterus might have been washed out and every antiseptic precaution have been taken; there might exist no injury to the cervix or perinæum, and still puerperal fever would develop and the patient die. The same result might ensue from any diseased condition about the bladder. He thought he had seen such cases in hospital practice. As a matter of fact, it was seldom that sepsis occurred, except as the result of gross neglect. It was his rule never to consider a case of labor ended till he had examined the uterus. It was very easy to pass a speculum. He was in the habit of delivering the woman on her side. In this posture he had the perinæum well in view and under control. He could sew up a tear and the patient never know it. A few drops of cocaine were all that was necessary. He then introduced a needle at the top of the rent and repaired the injury with an over-and-over catgut suture. His answer to the second question propounded would be "No."

Dr. C. C. Frederick, of Erie County, said he thought that the point of primary importance to the race to come was the question of the present preservation of the health of the species. Reviewing the accidents during labor, he said the predisposing causes of injuries of the ureters at that time were found in a low position of the bladder and ureters, and an impaired nutrition of these organs during gestation, due to œdema and pressure. When the membranes ruptured before dilatation was completed, the cervix and the bladder were carried down into the pelvis before the advancing head, thus exposing the ureters to danger of injury. The use of forceps in such cases was a frequent cause of injury. To prevent injury of this kind, complete dilatation should be secured, if possible, before the membranes ruptured. If they did rupture early and the cervix was tense, support should be given to the bladder and anterior vaginal wall, and retraction of the cervix over the vertex secured as early as possible. The discussion between the advocates of the expectant method of placental delivery and the followers of Credé still continued, especially in Europe.

Dr. A. L. Carroll read an elaborately prepared statistical paper bearing upon the subject of the discussion. (To be published.)

The Medicine of the Classics.—The Hon. C. H. Truax, of New York, delivered an address on this subject. He took for his remarks the humorous side of the picture and brought out, as the result of a great deal of very scholarly research, the fact that even as far back as Æsculapius the physicians of that period were given to playing upon the credulity of their patients and were as unscrupulous in the matter of fees when opportunity offered as their possibly equally necessitous brethren of to-day.

The Physician as a Witness.—Dr. Martin Cavana, of Madison County, in a telling paper on this subject, urged upon the profession to take more pains to qualify for the work of expert testimony before going into the witness box. Then it was well to adhere to the one or two authorities which had been studied and to disclaim any familiarity with others. While the main anatomical features likely to come up should be looked up, the witness need never hesitate to admit having forgotten such portions of the matter as he could not readily recall. He could then take the opportunity to remind the court that even the lawyers were obliged to consult their authorities. It was well to secure the favor of the entire court by manifesting a spirit of fairness to both parties in the action. Technicalities should be avoided and the purport of every question by the cross-examination well weighed before answering. People with no business in the autopsy room should be kept out of it. If the fire-shovel or wood-saw was used in making the dissection, it was well not to let any non-professional eyes witness the fact, lest it should lay the operator open to unpleasant remarks.

Some Observations on Bone and Skin Grafting was the subject of a paper by Dr. B. M. Ricketts, of Cincinnati, Ohio. Grafting or dermapenthesis in the vegetable kingdom had been developed to such an extent that there was hardly any limit as to what could be done in the way of repair and production, beauty and financial gain being the greatest desiderata. While the results of grafting animal tissue were less gratifying than those of vegetable tissue, much had been done to convince us that the limit was far beyond anything yet attained. Of the many questions that arose relative to the subject of bone and skin grafting, there were three most prominent, namely: 1. Where and how should skin be grafted upon raw surfaces caused by injury, or by the removal of malignant or non malignant growths? 2. How and where might bones be restored? 3. Should fragments of normal bone be permanently removed except in case of amputation? The author limited the first question to the cases where the edges of the resulting wound could not be immediately coapted, coaptation being given preference under all circumstances. In the second class of cases he included the restoration of the bones of the hands, feet, arms, or legs that had been removed by trauma or surgical interference without amputation. Bone grafting or osteopenthesis, while not so far advanced, was capable of the same successes as skin grafting. Enough had already been done to show that its confines were not narrow by any means. As to the third question—that of bone fragments in either compound or compound comminuted fractures—where a bone was crushed or broken into two or more pieces, the greatest care should be taken to replace the fragments and to offer every opportunity for their union, that the strength and original shape of the bone might be preserved. That this might be more certain, all clots and foreign matter should be cleared away and shreds of tissue removed from between the fragments, which should be immediately restored to their proper places. In some cases, as in the long bones, the fragments might be firmly brought together with silver wire, which could afterward be removed. The author looked upon exploratory incisions in cases where the conditions of the bone could not be determined as justifiable and as being the only means of knowing the exact condition, clean surgery being the safeguard. A number of specimens of bone wiring in the dog were then exhibited.

Abdomino-pelvic Serous Cysts and Cystic Formations.—This was the subject of a paper by Dr. T. H. Manley, read by title. The author described a serous cyst as a structure of a low grade of development not under ordinary circumstances producing mixed elements, and, when unencumbered by pathological changes, maintaining its original histological character. The anatomical essentials were an investing envelope, composed of cellular elements, with more or less numerous nucleated strands of fibrous tissue, and becoming eliminated only by age or inflammatory changes. Internally the lining was of endothelial cells, having the power of both increasing and diminishing the quantity of the encapsulated liquid. The liquid contents, although designated serous, possessed no property in common with the serum of the blood except in physical character. These cysts, he was convinced, had for their origin an undiscovered microbe, which gained entry by way of the aerial or alimentary passages, and, when finding suitable soil or the system in a receptive state, they rapidly developed. In considering the ætiology of these formations, the writer pointed out that age and sex were important factors, females being the greatest sufferers. The formations might be regarded as evidences of a degenerative process, and, inasmuch as serous cysts were seldom seen except in the reproductive and urinary organs, they might be regarded as in some manner, as yet inexplicable, connected with the functional derangements in this region. After an exhaustive review of the morbid anatomy and symptoms, the writer, in dealing with the subject of treatment, said it would not do to be deluded by the reports from palatial hospitals, as such statistics could hardly be regarded as reliable criteria for the isolated rural practitioner. Not that such statements were wanting in truth or were varnished, but because there was but little comparison in the facilities for operating. In many hospitals the cases were selected with great care. The advice given by the elder generation of surgeons and practitioners was sound. They recommended marriage as a physiological relief when the cysts were of recent growth in the pelvis of the female. It was argued that, when fecundation followed copulation, the immediate active vascularity in the formerly languid, congested capillaries soon aroused the latent vitality in the reproductive organs, and that superfluous adventitious productions, recent in growth and moderate in size, underwent degenerative changes and disappeared. He had never seen any benefit from massage or electricity. When cystic disease threatened to compromise health and became the source of pain or discomfort, internal remedies would make no impression, and active interference was in many cases all that was left. Stupendous progress had been made, it was true, but it must be remembered that all operations involving the abdomen were fraught with more or less danger, and all entailed mutilation; hence conservatism should be the word.

Functional Disorders of the Nervous System of Women.—This was the title of a paper by Dr. F. J. McGillicuddy. Under this heading he classified a number of diseases which, although not entirely restricted to women, were found much more frequently in the female than in the male sex. The hysteroneuroses were gastric, glandular, cardiac, brachial, pharyngeal, spinal, cerebral, ophthalmic, and dermatic—hystero-epilepsy, hysterocatalepsy, trance, lethargy, narcolepsy, ecstasy, hysteric hypnotism, somnambulism, migraine, and recurrent orgasm. A knowledge of the different hysteroneuroses was extremely important, otherwise the wrong organs would get the medication. In the menstrual hysteroneuroses there was undoubtedly local congestion dependent on reflex irritation. The globulus hystericus was most assuredly in many instances a local congestion, which could be determined by placing the finger, during its existence, on the front of the throat, when it would be found to be very tender to the slightest pressure. Hystero-epilepsy was only hysteria in the highest degree, and not hysteria complicated with other neuroses.

The Management of the Placenta in Abortion.—Dr. Darwin Colvin, of Wayne County, in a paper on the correct method of dealing with the placenta in the second stage in cases of abortion, said he made it a rule never to leave the parturient chamber until the placenta was in his hands. He should consider that in the event of any trouble arising out of neglect to do this a physician would be guilty of malpractice.

Dr. McLeod said that in a very extensive obstetric practice he had never had a death occur from sepsis due to retained secundines.

Dr. Ferguson said that if that was really the case, the last speaker was very much more lucky than most of his hearers.

The meeting closed with the introduction of the newly elected president, Dr. Stephen Smith, of New York.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 16, 1890.

The President, Dr. Alfred L. Loomis, in the Chair.

Hydrophobia; its Clinical Aspect.—Dr. L. C. Gray read a paper with this title. At the very threshold of the subject, he said, we were confronted by the question as to whether there was such a thing as rabies or hydrophobia. There had been much and bitter discussion upon this point during the last few years. Those who would answer this question in the affirmative alleged as proof the fixed belief of ages, and the many epizootics of which we had historical record. The disease had never been very prevalent in this country, although local epizootics of it had been reported from time to time. It would also appear to be conclusively proved that many people had died after being bitten by rabid animals. But there had sprung up in America in the last few years a small number of very decided opponents of these statements. The extreme variability in the period of incubation in hydrophobia lent credence to the belief, that was firmly held by many competent observers, that death could occur from fear, with symptoms closely resembling those of the true disease. Although a recent writer had characterized such a belief as childish, it was nevertheless a matter of clinical observation that great psychical shock could produce mental disease and death. The author related several cases which had come under his own notice that bore out this statement. In the city of New York during a period of thirty-five years, from 1855 up to the present time, there had been but seventy-six deaths from hydrophobia. The author believed, from a review of the subject, that he was justified in the following conclusions: That frequent mistakes were made in the diagnosis of rabies and hydrophobia; that the so-called dumb rabies was a symptom of simple purulent meningitis and meningo encephalitis; and that very few cases of either rabies or hydrophobia had been observed in New York city or in the country at large. Admitting all this, however, the question still remained as to whether there was a true rabies or a true hydrophobia. The author believed that there was a disease running a fatal epizootic course in the dog and also other lower animals, and capable of being communicated to the human being and causing death, although the evidence of this would rest mainly upon the pathological and experimental considerations which would be presented by Dr. Dana and Dr. Biggs.

The Reality of Rabies was the title of a paper by Dr. C. L. Dana. He said that in order to prove that a certain disease was autonomous, distinct, and special, we must establish the fact that its ætiology and its clinical history were essentially uniform, or that the anatomical changes found after death were the same, or that inoculations of animals with the secretions or tissues of the victim of the disease reproduced the disease. The proof of the unity of a disease was, therefore, (1) ætiological, (2) clinical, (3) anatomical, and (4) experimental. The unity of some diseases could be established by only one or two of the four methods, not by all. In the case of rabies, a comparatively rare and obscure disorder occurring in the lower animals, so that only objective symptoms could be studied, it was important that all the proofs should be brought into use. The ætiological and clinical proof of the existence of the disease rabies was based upon the fact that different observers in every part of the world, from time immemorial until the present time, had all united in describing a disease in the dog having essentially the same origin, clinical symptoms, course, and termination. It was an established fact that the clinical symptoms of rabies were not absolutely sufficient for a diagnosis. Of the anatomical proof there was no constant change to be found in this disease. The nervous centers, which were the parts chiefly involved, were congested and occasionally showed hæmorrhagic and softened spots, and later in the disease, if it was prolonged, evidences of increased vascular activity occurred—exudation of leucocytes into the circumvascular spaces—and one might find the beginnings of a multiple focal myelo-encephalitis or of focal necrosis. The symptoms of rabies it was evident were caused not by any organic change in the nervous tissues, but by a profoundly distinct poison, the product undoubtedly of microbic activity. This poison acted first upon the nerve cells and fibers, and only later did it affect the vascular apparatus. It had been by a continuation of ætiological, semeiological, and anatomical evidence that in the past the autonomy of rabies had been established. In recent years, chiefly through the labors of Pasteur, the experimental proof had been added, and this, in the opinion of most, if properly carried out, was an absolutely positive one. Pasteur found that the virulence of the rabietic poison was confined chiefly and most uniformly to the brain and spinal cord. He found that rabbits inoculated subdurally with this virulent nervous tissue, after a certain incubation developed a paralytic disease having a uniform course and termination, with no marked anatomical change discoverable after death. He found that this disease was true rabies, because when dogs were inoculated with the rabbit's virus they were attacked, after a period of incubation, with the symptoms of canine rabies. In the light of such scientific work as Pasteur had done, the author did not see how one could deny that the specific character of rabies was experimentally proved. But, beyond this fact, other experimenters had abundantly confirmed Pasteur's results. Was hydrophobia a specific inoculable disease identical with rabies in the lower animals? The author had spent a good deal of time upon this point, because its establishment was the key to the whole question of the reality of rabies in man, and to all the practical points regarding its prevention. The proof that a specific inoculable disease known as rabies or hydrophobia affected man was furnished by the four criteria previously mentioned, viz.: (1) the ætiological, (2) the clinical, (3) the anatomical, and (4) the experimental. In the attempt to discredit Pasteur or disprove the existence of human rabies, a great deal had been made of pseudo-hydrophobia or lyssophobia, and of its alarming frequency and extraordinary dangers. As a matter of fact, there were no authentic clinical records of a single case in which fear of hydrophobia had caused a disease measurably similar to rabies. And there was no genuine case of death from this particularly hypothetical phantasm. There had been perhaps fatal cases of tetanus following the bites of dogs, and there had possibly been fatal cases of acute mania, generated in those predisposed by fright. These extremely doubtful instances would explain the fatal cases of so called pseudo-hydrophobia. Closely connected with the subject of the specific character of rabies in man and the lower animals came the question of the production of immunity from its horrible and fatal effects. The establishment of the specific inoculable character of a disease gave presumption in favor of the power of securing immunity from it, for to the great majority of specific diseases the animal body either naturally possessed or might acquire immunity. This was true of all, or nearly all, infectious diseases from syphilis to small-pox. The question now finally came, Could the immunity to rabies, which it was known could be conferred upon dogs, be conferred upon man. This could only be settled by statistics. From 1886 to 1889 Pasteur had treated 1,336 persons who had been bitten by animals proved to have been rabid, either by experimental tests or by the fact that other animals bitten at the same time had suffered with the disease. Of these 1,336, only 13 had died. Collected proofs of the proportion of deaths among persons bitten by rabid dogs, giving a reasonable and low estimate of the average, showed it to be fifteen per cent. There was, in the author's opinion, no experimental method, no pathological fact, and no prophylactic measure more firmly established than that antirabietic inoculations could be successfully applied to man. In demonstrating this, Pasteur had done more than simply save a few from a horrible death. He had established the principle of the possibility of protective inoculations in other specific infectious diseases. He had opened up an immense field for future productive labor—the prevention or regulation of scarlet fever, typhoid, typhus, and even phthisis was made to appear possible, and a revolution in medical practice of extraordinary importance could be foreseen.

The most important fact in the recent history of rabies was that all of Pasteur's statements concerning the procedure of rabies vaccination and its efficacy in experiments on animals had been in all essential particulars unreservedly corroborated by nearly all authors of the last two years. That there was yet much to learn about rabies was pretty clearly shown by the vast difference in the methods that were used with approximately the same results. In Pasteur's simple method, three or four c. c. of active virus, the strongest five days old, was used in the entire treatment. In virulence, probably the whole amount employed was not equivalent to more than one c. c. of the fresh medulla, and was used only after tolerance had been established by the use of a series of spinal cords possessing a gradually increasing virulence, commencing with one having no appreciable activity. In the intensive method the virus employed exceeded this by ten times in both virulence and amount. In Ferran's method, without any preliminary inoculations with weak virus, the fresh, most virulent virus was immediately used, not one c. c., but four c. c. daily, and this inoculation repeated on five successive days. According to Ferran, the more the virulence and the greater the quantity of virus introduced, the greater the immunity, and this immunity was immediately acquired apparently, for he commenced with inoculations of virus far exceeding in virulence and amount that which could have been introduced by any possibility through the bite of a rabid dog. On the other hand, another experimenter produced immunity by the frequent injection of almost infinitesimal quantities of virus. From the purely experimental side of the question, it seemed to the author that the evidence was very strong of the protective influence of Pasteur's inoculations in both animals and man. In fact, it appeared that an unprejudiced observer must either assume that there was no such disease as rabies, that Pasteur and others were not dealing with rabies, or candidly admit that the inoculations did give relative immunity. As to Pasteur's statistics and the relative mortality after the inoculations, the author confessed to the greatest incredulity. First, because he could find no evidence to justify the assumption that there were anything like as many cases of rabies in France or anywhere else as one would be led to believe was the case from the number of patients inoculated in Paris and in other antirabietic institutions. Second, it seemed to him, from personal experience in sending patients to the Pasteur institute, that little care was used to determine whether the persons had been bitten by rabid dogs, and no attempt was made to follow the history of the cases afterward. Pasteur's first assumption was that the virus of rabies was present in a concentrated form in the central nervous system, and especially the medulla oblongata and the spinal cord. This observation had been confirmed by several investigators, the author included. The second was that rabies might be produced with the greatest certainty by the subdural inoculation of other animals with portions of the brain and spinal cord of animals dead of rabies. Again, that the virulence of the virus could be increased and the period of incubation shortened by the successive subdural inoculations of rabbits. The fourth contention was that the rabietic virus present in the brain and spinal cord might be attenuated in a constant and progressive degree by drying the cord at a fixed temperature, and that the virulence was entirely destroyed after about fourteen days. Up to this point there could be no question about the complete acceptation of the conclusions of Pasteur. The author was unable to understand why the question of the apparent increase in the number of cases of hydrophobia had been so generally left out of consideration in the various reviews as to the value of the results obtained in the inoculation of human beings. In 1883 it was reported that 183 animals suffered from rabies in France; in 1888 this number had increased to 863. Statistics, to be sure, were not worth much; but when the records of all countries, as well as the consensus of medical opinion everywhere, showed that rabies had been an exceedingly rare disease, it was curious to know how one could accept without questioning the statement that three hundred or four hundred lives were saved annually in France, as many more in Russia, and a proportionate number in other countries where there were antirabietic institutes. In conclusion, it might be said that, experimentally in animals, Pasteur's method conferred relative immunity to rabies, and probably might also do so in the human being, but that the statistics of results derived from inoculation of human beings must be accepted with reserve.

Dr. H. C. Ernst, of Boston, who has done considerable experimental work in this field of inquiry, said that he regarded the results accomplished by Pasteur as among the greatest achievements of modern medicine. The speaker had been entirely converted to a thorough acceptance of the theory after conducting a series of inoculation experiments. If there was one thing certain in medicine, it was the unerring precision in the results obtained by the inoculation with these cord emulsions under the dura mater of the healthy rabbit. There was nothing like it in the whole range of scientific experimentation. As to the existence of a constant lesion pathognomonic of rabies, he did not know that this could at present be defined with scientific accuracy, but careful observation had demonstrated the very uniform presence of infiltration of the minute vessel walls in the medulla oblongata with white cells, engorgement of the veins, and occasionally circumvascular hæmorrhages. What appeared like small miliary abscesses were also present. The condition had been aptly covered by the term miliary bulbar inflammation. The speaker then gave the clinical histories of three cases of true rabies in man which had come under his own personal observation, and which, taken with the fact that a large number of dogs were affected at or about the same period, pointed to the recent existence of an epidemic of rabies in Boston. One of the cases cited in detail was of special interest, because the patient between the paroxysms was able to describe his condition. He had been specially questioned as to whether there existed any repugnance to water, and had positively stated that there was not, but that any mental process connected with the act of deglutition caused an uncontrollable spasm of the muscles of the throat. This patient had also described himself as perfectly conscious of his acts during the violent paroxysms, but as being utterly unable to control himself. Even while he was thus quietly describing his sensations the fit would come on, and the next moment he would be on the floor struggling with four or five men. Then, as to the value of the preventive method, the speaker instanced the case of a boy who was bitten in August by a dog which within fifteen minutes had also bitten several dogs. Of these, two had died of rabies, and the father of the boy, becoming alarmed, had consulted the speaker. Inoculation was advised and submitted to twice a day. No bad symptom had resulted. Before the boy's return home a third dog had succumbed to unquestionable rabies. Whether there was anything in Pasteur's contentions or not, one thing was certain: he had got hold of a specific virus which could be transferred from one animal to another indefinitely, always producing a sequence of practically identical symptoms. The experiments made by Dr. Spitzka had not been carried far enough. They had produced something similar to the appearance of rabies in the rabbits, but had offered no sort of ground for comparison with Pasteur's experiments. While hardly wishing to stand up as a champion of the Pasteur method, if the statistics of the institute were not reliable, he was still bound to believe in the honesty in purpose of Pasteur and his assistants. It was a significant fact that, after the careful elimination of all cases in which an element of uncertainty existed, the mortality rate for those treated by inoculation under the method was only ninety-eight one-hundredths of one per cent. He expressed surprise at the statement that there could be no such condition as pseudo-hydrophobia or lyssophobia.

Dr. R. W. Birdsall said he had seen a number of cases of pseudo-rabies resulting from fright after a bite or scratch of a dog. These cases had not resulted in death, though he was not prepared to go so far as to say that death from fright was not possible. The nervous shock sustained might set up a series of changes, such as motor paresis, œdema of the brain, and coma, resulting in death. He did not believe we were yet in a position to be able to refer the phenomena of true rabies to the existence of one kind of specific germ. The effects might be due to the presence of distinct varieties.

Dr. H. P. Loomis had only considered the subject from a pathological standpoint. The findings tallied very much with those described by Dr. Ernst. Sections of the lower portion of the medulla oblongata had shown congestion of the capillary vessels and giant-cell infiltration of the adventitia, but no capillary hæmorrhages or thrombi.

Dr. Byron, who had made extensive experiments at both the Carnegie and the Loomis laboratories, had arrived at the conclusions that (1) inoculations of the specific virus of rabies under the skin were completely useless; (2) the results desired could never be produced by any process except subdural inoculation, and even then the effect was not inevitable. The question was a serious one, and the subject still open to further experimental research before any definite scientific conclusions could be formulated.

Dr. E. C. Spitzka said he had made no experiments on rabbits as intimated by Dr. Ernst, who had evidently not followed the points of the speaker's work. In the experiments made by him on dogs he had made no statement that these animals had represented true cases of hydrophobia, but, by the introduction of various irritating substances into the brains of these dogs, he had produced conditions of bogus hydrophobia. He was now associated with the conduct of a series of elaborate experiments on rabies the results of which could not as yet be formulated.

Dr. Gray thought the discussion had proved (1) that there existed undoubtedly in the lower animals a disease known as rabies, possibly made up of several diseases, due to different micro-organisms; (2) that this disease was more frequent in the lower animals than a similar disease in man known as hydrophobia; (3) that, while this so-called rabies in animals occurred very often in this country, it occurred less frequently in the human being; (4) that very few medical men had seen genuine cases of hydrophobia; (5) that cases of pseudo-hydrophobia were by no means uncommon, and that death could result from the condition; and (6) that there still existed considerable diversity of opinion as to the value of Pasteur's method, which would furnish material for discussion and incite to further experiment.

Miscellany.

Peroxide of Hydrogen and Ozone.—The following paper, published in the *Medical News* for October 25th, was read by Dr. Paul Gibier before the International Medical Congress at Berlin:

Since the discovery of peroxide of hydrogen by Thenard, in 1818, the therapeutical applications of this oxygenated compound seem to have been neglected both by the medical and the surgical professions; and it is only in the last twenty years that a few bacteriologists have demonstrated the germicidal potency of this chemical.

Among the most elaborate reports on the use of this compound may be mentioned those of Paul Bert and Regnard, Baldy, Péan, and Larrivé.

Dr. Miguel places peroxide of hydrogen at the head of a long list of antiseptics, and close to the silver salts.

Dr. Bouchet has demonstrated the antiseptic action of peroxide of hydrogen when applied to diphtheritic exudations.

Professor Nocart, of Alfort, attenuates the virulence of the symptomatic microbe of carbuncle before he destroys it by using the same antiseptic.

Dr. E. R. Squibb,[*] of Brooklyn, has also reported the satisfactory results which he obtained with peroxide of hydrogen in the treatment of infectious diseases.

Although the above-mentioned scientists have demonstrated by their experiments that peroxide of hydrogen is one of the most powerful destroyers of pathogenic microbes, its use in therapeutics has not been as extensive as it deserves to be.

In my opinion, the reason for its not being in universal use is the difficulty of procuring it free from hurtful impurities. Another objection is the unstableness of the compound, which gives off nascent oxygen when brought in contact with organic substances.[†]

Besides the foregoing objections, surgical instruments decompose the peroxide; hence, if an operation is to be performed, the surgeon uses some other antiseptic during the procedure, and is apt to continue the application of the same antiseptic in the subsequent dressings.

Nevertheless, the satisfactory results which I have obtained at the Pasteur Institute of New York with peroxide of hydrogen in the treatment of wounds resulting from deep bites and those which I have observed at the French clinic of New York in the treatment of phagedenic chancres, varicose ulcers, parasitic diseases of the skin, and also in the treatment of other affections caused by germs, justify me in adding my statement as to the value of the drug.

But it is not from a clinical standpoint that I now direct attention to the antiseptic value of peroxide of hydrogen. What I now wish is merely to give a full report of the experiments which I have made on the effects of peroxide of hydrogen upon cultures of the following species of pathogenic microbes: *Bacillus anthracis*, *Bacillus pyocyaneus*, the bacilli of typhoid fever, of Asiatic cholera, and of yellow fever, *Streptococcus pyogenes*, *Microbacillus prodigiosus*, *Bacillus megatherium*, and the bacillus of osteomyelitis.

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[*] Gaillard's *Medical Journal*, March, 1889.

[†] The peroxide of hydrogen that I use is manufactured by Mr. Charles Marchand, of New York. This preparation is remarkable for its uniformity in strength, purity, and stability.

The peroxide of hydrogen which I used was a 3·2-per-cent. solution, yielding fifteen times its volume of oxygen; but this strength was reduced to about 1·5 per cent., corresponding to about eight volumes of oxygen, by adding the fresh culture containing the microbe upon which I was experimenting. I have also experimented upon old cultures loaded with a large number of the spores of the *Bacillus anthracis*. In all cases my experiments were made with a few cubic centimetres of culture in sterilized test-tubes, in order to obtain accurate results.

The destructive action of peroxide of hydrogen, even diluted in the above proportions, is almost instantaneous. After a contact of a few minutes, I have tried to cultivate the microbes which were submitted to the peroxide, but unsuccessfully, owing to the fact that the germs had been completely destroyed.

My next experiments were made on the hydrophobic virus in the following manner:

I mixed with sterilized water a small quantity of the medulla taken from a rabbit that had died of hydrophobia, and to this mixture added a small quantity of peroxide of hydrogen. Abundant effervescence took place, and, as soon as it ceased, having previously trephined a rabbit, I injected a large dose of the mixture under the dura mater. Slight effervescence immediately took place and lasted a few moments, but the animal was not more disturbed than when an injection of the ordinary virus is given. This rabbit is still alive, two months after the inoculation.

A second rabbit was inoculated with the same hydrophobic virus which had not been submitted to the action of the peroxide, and this animal died at the expiration of the eleventh day with the symptoms of hydrophobia.

I am now experimenting in the same manner upon the *Bacillus tuberculosis*, and, if I am not disappointed in my expectation, I will be able to impart to the profession some interesting results.

It is worthy of notice that water charged, under pressure, with fifteen times its volume of pure oxygen has not the antiseptic properties of peroxide of hydrogen. This is due to the fact that when the peroxide is decomposed nascent oxygen separates in that most active and potent of its conditions next to the condition, or allotropic form, known as ozone. Therefore it is not illogical to conclude that ozone is the active element of peroxide of hydrogen.

Although peroxide of hydrogen decomposes rapidly in the presence of organic substances, I have observed that its decomposition is checked to some extent by the addition of a sufficient quantity of glycerin; such a mixture, however, can not be kept for a long time, owing to the slow but constant formation of secondary products having irritating properties.

Before concluding, I wish to call attention to a new oxygenated compound, or rather ozonized compound, which has been recently discovered and called "glycozone" by Mr. Marchand.

This glycozone results from the reaction which takes place when glycerin is exposed to the action of ozone under pressure—one volume of glycerin with fifteen volumes of ozone produces glycozone.

By submitting the *Bacillus anthracis*, *pyocyaneus*, *prodigiosus*, and *megatherium* to the action of glycozone, they were almost immediately destroyed.

I have observed that the action of glycozone upon the typhoid-fever bacillus, and some other germs, is much slower than the influence of peroxide of hydrogen.

In the dressing of wounds, ulcers, etc., the antiseptic influence of glycozone is rather slow if compared with that of peroxide of hydrogen, with which it may, however, be mixed at the time of using.

It has been demonstrated in Pasteur's laboratory that glycerin has no appreciable antiseptic influence upon the virus of hydrophobia; therefore I mixed the virus of hydrophobia with glycerin, and at the expiration of several weeks all the animals which I inoculated with this mixture died with the symptoms of hydrophobia.

On the contrary, when glycerin has been combined with ozone to form glycozone, the compound destroys the hydrophobic virus almost instantaneously.

Two months ago a rabbit was inoculated with the hydrophobic virus which had been submitted to the action of this new compound, and the animal is still alive.

I believe that the practitioner will meet with very satisfactory results with the use of peroxide of hydrogen, for the following reasons:

1. This chemical seems to have no injurious effect upon animal cells.

2. It has a very energetic destructive action upon vegetable cells—microbes.

3. It has no toxic properties; five cubic centimetres injected beneath the skin of a guinea-pig do not produce any serious result, and it is also harmless when given by the mouth.

As an immediate conclusion resulting from my experiments, my opinion is, that peroxide of hydrogen should be used in the treatment of diseases caused by germs, if the microbian element is directly accessible; and that it is particularly useful in the treatment of infectious diseases of the throat and mouth.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him, in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

AN ADDRESS INTRODUCTORY TO THE REPORTS ON THE PROCEEDINGS OF SECTIONS IN THE TENTH INTERNATIONAL MEDICAL CONGRESS,

DELIVERED BEFORE THE NEW YORK ACADEMY OF MEDICINE
November 6, 1890.

By A. JACOBI, M.D.

MR. PRESIDENT: On August 4, 1890, during the first and largest general meeting of the Tenth International Medical Congress, there were three universal and spontaneous outbursts of applause. The first and most sympathetic greeted the name of James Paget, and never was there an ovation more deserved. The second rang through the immense building when it was announced that the government of the French Republic had sent thirty-four official delegates, and that nearly one hundred and fifty more Frenchmen had joined the congress. They had overcome political enmity and jealousy, disregarded a rather slighting reference to their "national insanity" of twenty years ago, and come with open hearts and friendly feelings, a large number of them men of fame and high rank. The third greeted the announcement of the fact that on the first day of the gathering more than six hundred Americans were inscribed on the rolls. This recognition afforded to our name must have flattered the national pride of every one of us who were present.

This hearty welcome was more than I had mustered the courage to expect, for, indeed, Americans visiting Europe on such occasions as this labor under certain difficulties. Europeans do not quite understand our country, its political and social configuration, or its scientific attainments. If that is so even in Great Britain, both race and language being identical and mutual intercourse more frequent, how much less can we expect to be known on the continent. Besides, it is not always the best political, social, and scientific class of our fellow-citizens who travel extensively, and, though it is not the crowd of the *profanum vulgus* that ought to tell in the estimation of the best spirit of their country, it does so tell. Now, the majority of medical Americans they know in Europe, and particularly in Germany, belong to one of two classes—either they are *bona fide* students whom, being mere foreigners, they consent to matriculate even without the preliminary education rigorously insisted upon with their own young countrymen, or they are our young doctors who pass a few months or a year in European laboratories and clinics for the sake of special studies. It is these that are also the occasional participants in their national associations, where, nobody else being present, they are naturally considered the representatives of American medicine. Our best men travel but little and talk less. Indeed, some of those who were most fit to represent us in the congress kept in the rear, modest and retiring. Besides, the great opportunity America might have had to present to the view of the world whatever there is great and progressive in American medicine appears lost, for in the very number of the *German Medical Weekly* which was published in the week of the congress you could, in the history of previous congresses, read the statement that the Washington congress was unfortunately a failure, for which all of us, being Americans, are held responsible. Moreover, though English is read by a great many of the best men in Europe, the knowledge of our language is not so general as to insure a wide acquaintance with our literature through anything but the uncertain channels of extracts or translations. Nor are even these well selected. We are all aware that our medical journals are of as unequal rank as our schools, and not infrequently will you find a journal which is deservedly unknown among us, but is quoted in Europe under the impression that it is a fair representative of American medical literature. Nor is the treatment Europeans receive at our hands always very courteous or considerate. The editorial remarks of a great New York weekly were quoted as unkind, inasmuch as the efforts to make the congress international and Berlin a neutral ground for the whole world did not appear to be appreciated with us. It must be admitted, though, that they did not deem that Western journal worthy of serious consideration which spoke of the Tenth International Medical Congress as a congress of snobs, and advised every one of the forty thousand practitioners of the Mississippi Valley, "every one superior to the leaders of the congress," to stay at home.

Public opinion is often made or unmade by trivialities, sometimes indeed by personalities of an inferior nature. It was a source of complaint in Berlin that an American who had been honored with the request to represent our country by delivering one of the great addresses had neglected to see to it that his refusal reached the Committee of Organization in anything like due time. The proverbial courtesy of Americans was found wanting, and that at a time of feverish excitement and overwork. Such occasions are the very opportunities for those formerly Europeans who try to rise in their own estimation and that of their former countrymen by detraction of us, for there are those who do not immediately succeed, when they, our guests and future fellow-citizens, arrive among us, in impressing us with their superiority, or in being appreciated by us as they are by themselves, or in obtaining at once a lucrative practice and professional positions and honors. It is they who pay for the hospitality proffered by our country with shoulder-shrugging insinuations and pitying remarks upon our crudeness and inferiority, our "mob rule," our "civilized barbarism," instead of aiding in the realization of the national and cosmopolitan aims of the medical profession and science.

Nothing is so small as not to have some effect. Unfortunately, there is still so much national jealousy everywhere that faults and shortcomings in your neighbor beyond the boundary line are easily believed in, and slanderers and libelers are always busy. When I arrived in Germany a newspaper article was shown me which was concocted by a sectarian practitioner, formerly in New York, who detailed the inferiority of American medicine, schools, and practice to the horrified sanctity of the German public; and in the very week preceding the congress hundreds or perhaps thousands of pamphlets were distributed in Berlin for the avowed purpose of insulting us and making us uncomfortable. The pseudonymous author, who appears to have lived, or to live, in Chicago, says, among a great many other things, the following:

"In reference to the transatlantic gentlemen, nothing is more out of place than indulgence. American tolerance, so frequently extolled, exists for Americans only. When about to travel they leave it at home. It is almost always the result of ignorance, indifference, and bad conscience. As the average American never cares for the history of a science, the majority of the transatlantic members of the International Congress are totally unacquainted with European institutions, labors, and scientific methods and their aims. Nevertheless, every one of these gentlemen carries a paper in his pocket, easily compiled, wherewith to resuscitate the obsolete science of Europe." In the same sheet the man asserts that forty-two per cent. of all the doctors in Chicago are professed abortionists, and a great many followers of "Christian science."

Some of the great Germans with whose names every one of us is perfectly familiar denied being in any way influenced by such rubbish; but then again it was through them that I had to learn of a New York specialist, a fellow of this Academy, who was reported to have availed himself of his personal intimacy with the officers of the Associated Press for the purpose of having his congress paper served at the breakfast tables of a million of American households on the day of its delivery. That was a week before the opening.

Still, though they are human on the other side of the Atlantic, as we are on this, the facilities of communication have become such as to assure those wishing to see and know the truth that the time when American medicine was merely receptive and imitative has long passed by, and that we have entered the arena as co-operating peers. They were anxious to have us and secure a large American attendance. In order to accomplish that end, the general committee appointed an American committee which was to enlist universal sympathy in our country. No time was to be lost, and the first ten medical men who expressed their willingness to serve were appointed. The territorial jealousy, one of the most marked of American littlenesses, which was expressed in some journals, obliged me to explain publicly, in the May meeting of the Association of American Physicians, why that committee consisted of Stewart, Fitz, Lusk, Draper, Hun, Pepper, Busey, Osler, and Peyre Porcher. Will the Western gentlemen who found fault with the committee, and heaped vituperation on the mode of its composition, tell us that the names selected did not deserve the honor conferred upon them, or that there are better ones among us? Does American medicine begin at the Alleghanies or the Sierra? Or will you, gentlemen of Ohio, Mississippi, or Nevada, tell us which of the forty-four stars of the glorious flag is the one you claim as yours? Yours are the forty-four; so they are ours. Are your minds not big enough, your hearts not large enough, to embrace the love of and the pride in the whole flag of America?

A further proof of anxiety to secure the co-operation and good-will of the Americans was given by the Berlin committee in this, that they insisted upon one of the public addresses in the general meetings being delivered by an American. Weir Mitchell having declined in time and courteously, and Osler not being within reach, I was telegraphically directed to select an orator. The choice of Horatio C. Wood was heartily approved of in Berlin and elsewhere. Again, a few have asked why could not a New Yorker have been honored with that commission? That question is answered by some other queries: Do you know of a better man? Is America bounded by the East and North Rivers? And, lastly, has New York forgotten that she can afford to be courteous and generous?

More. A few brief weeks before the meeting of the congress the American orthopædists expressed the desire that there should be a separate Section of Orthopædics. When I, then already in Europe, was notified of that request by the chairman of the Orthopædic Section of this Academy, and expressed my fear lest it might be too late to make arrangements for that change, I was by returning mail informed by the Secretary-General that the request had at once been granted by the Committee of Organization, on the ground that my countrymen must know best what suited them and their scientific labors.

The organization of the congress was not completed without the election of an American vice-president, John S. Billings, and an American, Mr. Allen Starr, as one of the two English-speaking secretaries, and a large number of American vice-presidents of sections. And, lastly, when on the third day of the congress, and in the second general meeting, the hour grew late and the audience melted under the hot sun, Dr. Wood's address was, out of consideration for the Americans, postponed to be the first topic of the third meeting, though the hour and arrangements and printed preparations had to be changed accordingly.

All this was meant, and was believed to suffice, to make every American feel at home. If it did not succeed, it ought to have accomplished that end. But I have been told that disappointments have been keenly felt and complaints been uttered.

When an English paper was read, many have been reported to leave the room. Many essays were not read at all, some were not allowed the time required by the authors, some men would read beyond the legal limits. Such comments are natural, but so also are their causes. The unprecedented number of papers offered at a late date, and too courteously accepted, and some acoustic disadvantages of many of the audience halls, are among the causes of disappointments which are unavoidable in everything human. The experience of the past can furnish remedies in the future. However, when one man complains that he was not one among the five per cent. of members who could be admitted to the court reception in Potsdam, another that he had to pay for his share of the section dinners on the evening of Wednesday the sixth, proclaiming that matters were different in Washington, where no foreigner paid anything, it proves one of two things—either that there were those who went more for the incidental appurtenances of the congress than for the congress, or that our national failing, which is a highly developed emotional hyperæsthesia, was rather demonstrative. I can assure those who are finding fault with the scantiness of their enjoyments that I know of some at least who neither shared in the entertainment in the City Hall, for which Berlin paid eighty thousand marks, nor danced at any of the five balls, nor imbibed the music and songs in eleven languages, and other beverages, at Kroll's, and—did not feel the worse for it the following mornings. If I have any fault to find, it is with the overflow of entertainments, the excess of generosity, the multiplicity of luncheons, dinners, and receptions, the waste of money in the vast number of public and private social gatherings.

If there ever were hosts spending unstintingly, aye, squandering money in the service of unlimited hospitality, they were the profession as a whole, and the single medical men of Berlin.

In connection with this fact, let me make a remark which is dictated by no caviling spirit, for I have too many reasons to appreciate the universal kindness and untiring hospitality of the great and gentlemanly members of the Berlin profession, who were bent on nothing but rendering the sojourn of the foreign guests comfortable and pleasant. I must here mention the names of Virchow, Bergmann, Waldeyer, Gerhardt, Henoch, and Leyden and his accomplished wife, the Chairman of the Ladies' Committee, and could name a host of others. Many of us found it impossible to respond at the same time to the requirements of actual congressional duties and the urgent demands of hospitable courtesy. In this also there are discomfort and loss for the individual member. But the matter has a very much more important aspect. An excess of social entertainments and the accomplishment of the end for which the International Congress is convened are incompatible at a certain point. Too many feasts interfere with legitimate work. The expectation of a good time may—if I can not say it does—invite the attendance of many, of hundreds, perhaps of thousands, who would not go for the sake of work. On the other hand, those who have gone for the latter are liable to feel sorely disconcerted. Thus it has happened—at least this disappointment can be held in part responsible—that the national associations have suffered from the persistent absence of those who do not wish to lose great opportunities; and that all over America, Great Britain, France, Germany, and other countries, there have been formed by dissatisfied men who place scientific work over any distractions, be they ever so pleasant, special societies, the objects of all of which ought to have been accomplished in the sections of the general bodies. It would be a sad development if the same tendency were to grow up in international congresses. At this very moment there are already in existence an international ophthalmological and an international otological congress. It would be the fault of the management of international medical congresses if other specialties or doctrines should follow the example for no other reason than the predominance of the social over the scientific element. If the latter ceases to rule, the great men of science will stay away, and the holiday-seekers and a few ambitious office-holders will remain. *Docet experientia.*

It is only a wealthy city and rich professional men who can entertain as Berlin did. For such hospitality as was displayed there you require large and generous hearts, ample and well-filled purses. There are but few communities like hers. If the habit of prodigality becomes persistent, we shall be received in future with misgivings on the part of our hosts, who must fear lest their efforts fall short both of the results of predecessors and of the expectations of the guests. Let these two calamities occur—viz., the absence of the best men of all nations and, on the part of cities and men, hesitation to request our coming—what will become of the international congresses?

And where is the prevention of the danger alluded to? Here: Let the social entertainments be reduced to a minimum. Then any city with ample hotel accommodations will be able to receive us, though we be thousands. Then those bent upon pleasure only will seek it elsewhere. Then the numbers will no longer be unwieldy and shapeless. Then the men looking for work and for the men who work will be eager to come and see and be seen, to teach and be taught.

The unprecedented success of the American Congress of Physicians and Surgeons, the first meeting of which was held in Washington in September, 1888, tells its own tale and exhibits the proof of what I have said. In my mind there is no doubt that its second meeting, in September, 1891, will be equally successful; its three days will be dedicated to work, and the official social entertainment limited to a plain subscription banquet. In that way neither the lawful work of the congress nor private intercourse and hospitality are interfered with.

It may appear invidious to muster the co-operative services rendered by the members of the different nations represented in the various sections of the congress. Still, as we generally have a good opinion of ourselves, we are not afraid of looking back at our own contributions to the scientific material that was furnished. When we do so, we have to admit, however, that but a small percentage of our seven hundred participated in the general work. It is true there was one who got himself delivered of quintuplets; fortunately, he had no equals, and he was not, as a medical journal reported, "taken in earnest." Still, there were a number of papers, not compiled, but original. The Orthopædic Section was American to a great extent. The Neurological had a very fair representation from our country. The Gynæcological and Pædiatric sections were not without American contributions. The Surgical was supplied with papers which were highly appreciated, mostly from the West. Indeed, there were but few sections in which no American took part, though there were some in which no active work at all was furnished by us. The most redeeming feature was the meeting of the combined Laryngological and Pædiatric Sections, in which the ingenious, painstaking, and successful efforts of O'Dwyer were heartily applauded.

After all, however, the labor performed in the sessions may be the principal, but is certainly not the only, object in view. An English journal has said that "congresses are not instruments of research," and, still, the transactions of all are replete with it. It is true a congress is not so much meant for new discoveries as for the broad dissemination of facts, hints, and ideas. A man—not being ubiquitous—may not take away with him many things new, but what he carries home is a new stimulus and encouragement.

In the congress you saw a great many men whom you thought you knew, but, since you listened to them and watched them while you listened and took their measure, know better now. You saw and heard the living objects of your admiration, the molders of professional thought in all countries; discoverers, teachers, laboratory-workers, practitioners; those who, after hard work, create books by spontaneous generation out of their brains, and those who compile them out of their pigeon-holes; the eagles, the bees, and the moles—also the parrots and that class of envious cuckoos that "transfer other birds' eggs into their own nests." You found there was room in our great army for many men and many classes of men. You gathered encouragement from learning that even truly great men were still men and human, and that some degree of greatness was within the grasp of any man in town or village who would work for it intelligently, bravely, and honorably. All this is what a congress will teach those who consent to learn.

There is another lesson that is taught by a congress: The separation into twenty sections proves the endless and diversified branching of the grand old tree of medical science. Their working under the same roof, however, and under the same administration, their occasional combination for a common purpose, their gathering in general meetings, and their listening to the same addresses, with the same interest and profit—all this, in spite of the fact that some of the twenty appear to be threatened with the danger of degenerating into mere handicraft, proclaim louder than steeple bells that medical science is "one and indivisible, now and forever."

The congress conveyed to me, like its predecessors in Copenhagen and London, a great lesson and furnished an elevating spectacle. Imagine, those of you who have not been present, thousands of medical men from all parts of the world and speaking a dozen different languages, not perhaps endowed with the same erudition or mental or moral power, but moved by the same instincts and interests and assembling at the same call and for the same special purpose. The great and the lowly, the old and young, meet as brethren on the same platform, if not of equality, still of fraternity and solidarity. National jealousy and prejudice are shelved for at least a week, and the lesson is taught that brethren may live together peaceably under the same roof, an example to the nations of the future. The man and the man of science are appreciated and loved, though political adversaries. Applause takes the place of hisses. The contest is no longer against each other but with each other, side by side, arm in arm, with the same weapons of the brain and soul against the common enemy of science and mankind—viz., physical deterioration and social misery. Thus the cosmopolitan spirit of coming centuries is foreshadowed and initiated by the co-operation of the men arrayed in the army of the noblest of all sciences and professions. Therefore may no man who can prove an example to his peers in this or any other country, no man who can teach, none who can learn, none who can worthily represent his country in any capacity and do honor to America among foreigners—may no man, except for valid reasons, ever shirk his duty to attend an International Medical Congress.

Original Communications.

THE MANAGEMENT OF FRACTURED LIMBS.*

By EDWARD VON DÖNHOFF, M. S., M. D.

When the proper method of avoiding the unsightly and mischievous consequences of bad management of fractures in the continuity of limbs seems to be shrouded in impenetrable mystery (?), the solution is often enough to be found, if rightly sought for, in the ignorance of certain radical principles, and growing out of this an element of harmful fearfulness on the part of the medical attendant. To my mind, a more rational answer than this can not, in a majority of instances demanding it, be found to account for the wooden and unsymmetric appearance, if not permanently compromised usefulness, of many limbs issuing after treatment (?) for fracture from the hands of the surgeon. The more deplorable is this state of things since one may speak in this connection with greater propriety than in most others of definite rules of management, these being based upon notably constant reparative phenomena, so uniformly attendant upon injuries of this class and in such thoroughly accredited guise that, barring unessential *contretemps*, each variety of the two grand divisions of fractures of limbs—that involving the shaft only and that affecting the joint—may be successfully treated by the thence deducible formulæ. When it is borne in mind that books on general surgery, and even those specially devoted to fractures, fail to definitely indicate the proper length of time during which it is necessary to maintain uninterruptedly a fixed apparatus upon a fractured limb, and added to this other neglects of detail, and the tendency on the part of many practitioners to follow literally and tremblingly what of inexplicit rules (?) they may find laid down in such works; and, further, the infrequent and wavering use made by many of the most palpable fruits of induction—any adverse feeling as to the seasonableness of the following remarks will, it is hoped, be mollified.

Ordinarily, the broad proposition that when a patient who has sustained a fracture of a limb or a joint leaves the care of the surgeon, the functional capacity and symmetry of the erstwhile injured part should be *very nearly* if not *quite perfectly* re-established, is thoroughly logical if the proper methods of management have been observed, and provided there were no constitutional influences to militate against the repair. This is especially true of simple fractures resulting from indirect violence, and only exceptionally untrue of compound fractures—*i. e.*, when the modifying element is of the most serious nature permitting of the conduct of the case as one of fracture. So that in our day, to quote a great Nestor of surgical philosophy, "a simple fracture, or one convertible in time to this form, should rather be considered a serious inconvenience than a fearfully hazardous malady to the unfortunate." Even age is a comparatively insignificant factor of prognosis, formidable (?) only in that it bears upon the likelihood of acquired diathetic influences which may become active as local interruptions. In this connection it is a remarkable fact that fractures occurring in the bodies of pronouncedly strumous young individuals in whom analogues of histological senile changes are frequent are not discernibly influenced by the existing diathesis except in much debilitated subjects, or such as have already existing active bone disease. Active syphilis, congenital or acquired, is much more apt to exert an adverse influence in either young or older persons. Upon the whole, there seems to be less danger of total or partial failure of treatment, so far as union of fragments and symmetry of limb and function are concerned, from diathetic influences or acutely developed local causes or temporary diseased conditions of the body at large than from faulty mechanics or dilatory manipulation. The largest proportion of rational failures are in epiphyseal fractures, necessitating special consideration of muscular attachments in the mechanism of apparatus to be adapted to the injury. This variety embraces, of course, fractures of the femoral and humeral head and glenoid cavity and the olecranon and coronoid processes. It is perhaps as excusable to fail in satisfactorily dismissing a case of this sort after ordinary treatment as it is inexcusable to abandon a case of simple fracture of the forearm or leg healed (?) with a remaining incurvature or excurvature, or, what is rarer, however, a pseudarthrosis. It is equally unpardonable to dismiss a case in which, through faulty management alone, there remains what ought never to have been permitted to develop—a fibrous ankylosis of joints, whether involved in the fracture or not. Such conditions often enough are the source of seriously modified or quite abridged usefulness of a whole limb and the utter helplessness of the sufferer.

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* Read before the New York County Medical Association, October 20, 1890.

It is just here that an absence of that knowledge of detail, so rarely vouchsafed the student of text-books and auditors at didactic lectures, is most poignantly felt and too tardily admitted to be the basis of the success of acknowledged superior skill. A half-dozen or so of ankylosed elbows, wrists, hands, etc., in one's surgical repertoire should, it seems, be a sufficiently effective means of suggesting the propriety of a change in the erstwhile practiced methods. And yet there are those within the sound of my voice who have a much longer score to their credit (?). This is, of course, not the only field of surgery in which such evidences of unfitness exhibit themselves, as witness the salutary revolution effected in operative surgery generally by the inducted, methodical attention to detail of its most modern and most brilliantly successful school. Such revolution could only have been possible in the face of such acknowledgedly criminal negligence as it has swept out of existence. It is said of Lister that, during the time when the antiseptic (?) spray was by him considered a *sine qua non* of success, he dismissed an otherwise competent assistant for having, during a very short interval—an operation by Sir Joseph being under way—permitted the spray to cease. Whatever the justice of this incident, surely the offense was not so reprehensible as a neglect on the part of the surgeon to use the proper precaution against the establishment, quite unnecessarily, of a stiff joint, or a crooked limb, or a much shortened one; and yet English surgery is remarkably, though not exceptionally, free from distinct rules of prophylactic practice in this regard. From a text-book as much sought and consulted as Erichsen's, it is impossible to learn when a fracture dressing is to be finally removed, or when passive motion of a fractured elbow may be safely begun, etc. Indeed, no text-book is known to me in which this information is distinctly and ætiologically imparted, and only in comparatively recent times have occasional articles appeared in medical journals looking to the establishment of the "treatment of fractures" upon a physiological and scientific basis.

When the surgeon of a decade since is confronted with his then faulty technique, such as a failure to securely arrest hæmorrhage from the smallest bleeding point, or his failure to adapt the closure of a wound to the known requisites underlying the physiological union of cut surfaces, or inattention to the imperative details of drainage, and last, but not least, failure to secure all the hygienic and other physiological addenda of wholesome physical comfort to the patient he wished to safely tide over a surgical danger, he stands confessed an erstwhile unthinking votary of dogmas which, while they embodied the spirit, failed to impress the literal necessity of attention to the smallest details of truths underlying, as chiefest corner-stones, the grandeur of modern surgical achievement.

There is no less a need of attention to detail, in order to secure proper results in the management of fractures, than there is of assuring similar desiderata in other fields of practice, and these are by no means easier, but rather more difficult of establishment here than elsewhere. Besides being of the first importance from a medico-legal point of view, the perfect success in the treatment of fractured limbs is essentially tributary to utilitarian philanthropy. The treatment of a fracture should begin with a correct understanding of the mechanical history and topography of the injury. In order to secure this, it is, in my opinion, necessary, in the majority of cases, as a matter of both safety and accuracy of adjustment—the most essential initial step to success—to anæsthetize the patient, at least in every instance where muscular resistance to effective manipulation is expected, or a doubt as to the exact line of fracture exists. I should positively make no conclusive (?) examination in any case of fracture of the shoulder, elbow, wrist, hip, knee, or ankle joint without the exhibition of an anæsthetic, unless, indeed, it were possible (?) to secure through the will-power of the individual or by apparatus—these resources to be substituted only under circumstances contra-indicating the use of anæsthetics—such a passivity of muscles as to assure a satisfactory exploration. The examination should note the amount of enlargement growing out of infiltration of the surrounding soft parts with serum or blood, also the probable amount of fluid —probably blood—lying in immediate contact with the fracture, and the degree of displacement of fragments and the direction of it.

We will assume the study of a simple comminuted fracture of the elbow. The diagnosis being complete, the limb should now be scrupulously cleansed. Begin the first dressing of a fracture by fixing the replaced fragments—*i. e.*, the site of the fracture first—with a plaster-of-Paris roller, adjusted over suitably arranged batting or other cushioning of available material, in only sufficient quantity to prevent painful or undue pressure. This roller is permitted to harden somewhat before the succeeding ones are applied, as its evident purpose is to secure the fragments in the position given them by the operator in such a manner as to prevent their slipping during the subsequent manipulation. The limb is now swathed as usual and the plaster bandage adjusted, beginning at the distal extremity over the first applied roller and including the shoulder in a spica. In fractures of the elbow I have for a long time preferred a pose of about 110°, because of the muscular equilibrium thus attained and the greater usefulness of the limb in this position to a laborer should (?) the joint become ankylosed.

If great restlessness is expected at this time, the anæsthesia may be prolonged for a few moments, which will suffice for the hardening of the plaster, especially if it is rubbed with powdered alum. When the patient is thoroughly conscious and the surgeon convinced of his complete comfort, the first dressing may be regarded as properly adjusted; as soon after this time—ordinarily from two to three days—as the more or less complete recedence of the swelling is indicated by the general sense of comfort, and the evidences elicited by careful percussion of the plaster casing, this should be carefully divided into two equal halves longitudinally, and the upper half carefully lifted off without in the least disturbing the limb. The exposed cotton is then smoothly teased away, observing the middle line in the process, and so the arm is bared quite perfectly for all purposes of inspection.

If the swelling has, as is most likely, receded and the shapeliness of the limb is suggestive of good apposition of the fragments, the removed half of the dressing should be, after trimming down, reapplied and fastened in position with a cheese-cloth roller snugly applied, and the patient allowed to rest undisturbedly during the ensuing two or three days. At the end of this time the patient should be again anæsthetized and the dressing carefully removed altogether. Passive motion should be slightly effected at the elbow. The shoulder and wrist joints, as also the fingers, should be thoroughly moved. The limb is then lightly swathed in batting, including the wrist but not the shoulder joint, which is held in position by a few turns of ordinary sewing thread. The whole is then covered with two leather splints previously cut and shaped, by measurement.

Birch-tanned saddle-skirting, which I prefer, is made quite soft by dipping it quickly into very hot water (160° to 170°), and so becomes as adjustable as papier-maché. The splints are quickly and accurately molded to the limb, and held in position with turns of sewing thread, to be directly followed by a cheese-cloth roller. In a few hours this case will be found to be quite bone-like in hardness, and having, of course, the exact shape of the limb. On the day following, the upper half is lifted off and slight passive motion made at the elbow and wrist. Everything progressing favorably, the slight remaining swelling of the limb will decrease visibly day by day, and the edges of the leather may be trimmed accordingly to preserve a close fit. Each disturbance of the dressing must be followed by its careful readjustment. On the eighth or tenth day I remove the whole casing and fix its two halves together, at their posterior border, with a series of points of waxed-end sutures; their anterior edges are provided with shoe-lace hooks. Thus a perfect and reliable boot is secured. The case or boot is then replaced and laced in position, after the proper passive motion has been practiced. During the succeeding four to five days the bandage is regularly removed by the surgeon and readjusted after passive motion, which by this time will be possible to an extent very nearly simulating the normal area. Now the patient may be instructed to leave off the boot during the day-time and readjust it only when about to retire for the night, so that he may be protected against injury from involuntary motion during sleep. After arising and bathing the limb with tepid water and subjecting it to gentle friction with a towel, the patient should be required to make voluntary motion to the limit of his comfort in imitation of all the normal motions of the limb; during the day he should carry a small round object in the hand of the injured limb and manipulate it for a time; he should also be required to occasionally make complete pronation and supination. At the end of the fourth week the individual whose injury has been treated as above described can be safely dismissed from attendance.* He will have been sufficiently educated by this time in the management of his condition, and will, at the time of his dismissal, be finally instructed to keep up the nightly adjustment of the apparatus during the following two weeks. Bathing, massage, motion, etc., are to be likewise systematically practiced.

The foregoing is a typical case exemplifying my practice during the past fifteen or sixteen years, during which time I have seen no failures in the treatment of similar or other kinds of fracture managed in this fashion. I have during that period induced many surgeons to practice the method, and have only heard words of commendation. Some years since, a considerable number of cases (one hundred and sixty-five) of fracture, very varied in character and taken from the practice of colleagues who kindly contributed their experience with this method, were collated and tabulated by myself and reported to the State Medical Society of Kentucky. This statistical table embraced many cases of complicated and comminuted fractures at the elbow, and also a number of intracapsular fractures at the hip. In no instance did an adverse or at all questionable result obtain, though many cases were of the gravest and most difficult nature. Many were instances of surgical fracture by the Macewen operation.

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* In fractures of the lower extremities the patient should not be permitted to bear his weight continuously on the injured limb until the close of the fifth week, lest he incur the danger of refracturing it or producing a curvature at the point of fracture because of the still relatively soft condition of the callus.

A number of intracapsular fractures (hip) were also contained in the list. The average duration of active treatment and attendance by the surgeon, in all the cases thus recorded, was twenty-eight days.

In no case was there remaining any deformity, atrophy, or vestige of fibrous ankylosis, or marked abridgment of voluntary motor capacity—surely a very encouraging summary.

From an analysis of the supposititious case preceding, we may formulate rules of practice which are applicable to the management of every form of simple fracture of the long bones and joints of the upper and lower extremities, and are based upon such unvarying (?) attendant physiological reparative phenomena that they are quite self-evident as well as safe guides. In the management of comminuted simple and compound fractures the added difficulties of the situation are occasionally such as demand nice discriminative mechanical tact during the arrangement of the fragments at the time of the *first* dressing; and for the rest, a thorough appreciation of phenomena attendant upon the repair of bone injuries complicated with contused or similar lacerations of adjacent soft parts, the significance of which varies in degree of importance as an element of prognosis as well as a never-to-be-overlooked guide in the very first steps to be taken, dependent upon well-understood probabilities in this connection.

As to the time of beginning passive motion of a fractured joint and those necessarily included in the first fixation apparatus, it is only requisite to remember how readily stiffness and, a little later on, ankylotic appearances develop in temporarily confined joints, to appreciate the necessity of taking advantage of the earliest moment of safety to interfere and interrupt fibrous formations between the articular surfaces; such interferences need, fortunately, to be very slight indeed, and neglect now will afterward constitute an almost, if not quite, complete nullification of our best (?) efforts in other respects. No phase of a clinical fracture history is of graver significance than this matter of possible fibrous ankylosis. It is this, too, which evolves those phenomenal appearances of atrophic and paretic developments, especially often associated in the late history of the so-called graver forms of fracture, which are wont to excite our commiseration when, alas! it is too late to aid the victim. Experience, based upon an observation of a great number and variety of cases, including many comminuted and compound and otherwise complicated fractures of the extremities, has satisfied me perfectly that it is safe and best, ordinarily, to leave off "fixation apparatus"—except as a protection against untoward involuntary acts or such as might occur during sleep—at the earliest practicable moment—*i. e.*, about the fourteenth or fifteenth day, a time at which the "pin" and "ensheathing" callus and periosteum have been reformed and the new structures are sufficiently firm to support the "part" thoroughly against all prospectively reasonable chances of displacement; but of course not against *great* violence, or, in the case of the lower extremity, against the uninterrupted effect of the superimposed weight of the body, as in walking, etc. But I have frequently exhibited patients to medical societies, after a Macewen operation done for the correction of deformity of the thigh or leg, able to stand without artificial support as early as the twelfth day. These tests were quite sufficient to demonstrate the feasibility of my proposition, and I can not therefore too strongly emphasize my belief that it is unnecessary and baneful—promoting, as it does, atrophic changes and retarding the reacquisition in numerous directions of interrupted functions even in many cases of the simplest form—to maintain fixation by artificial means after a natural and safe provision against displacement of the fragments is assured.

It is of the first importance to effect an accurate and exact adjustment of fragments, as well in fracture of bone as in divisions through the soft parts, as certainly the most valuable desideratum underlying the prompt union of divided structure. This is more or less constantly possible to expert and painstaking hands, and is always (?) followed by the best, strongest, and most rapid cementing of the breach. It is only fair to add, for the benefit of those who would witness for themselves the results described in the preceding paragraphs and than which *I* have seen few others during the past fifteen or sixteen years, that it will not be permissible in the premises to overlook or slight the least detail in the management of their future cases.

THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.*

By HENRY LING TAYLOR, M. D.,
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In spite of untold labor devoted to the subject of lateral curvature by able men, we still seem to lack, for the ordinary forms of this affection, a scientifically observed and well-digested clinical history, a satisfactory theory of pathogeny, and a thoroughly rational treatment.

There are, no doubt, diversity, multiplicity, and complexity of causation in these cases, but the theories so far advanced either fail to explain or conflict with observed facts, such as the following:

1. Most delicate children with weak spinal muscles, leading a sedentary, precocious, and intense life, and habitually assuming faulty attitudes, do not develop lateral curvature.

2. Some vigorous children, leading an active, out-door life, and whose spinal muscles seem as strong as or stronger than the average, do develop lateral curvature.

3. Right-handed people sometimes develop scoliosis, with the dorsal convexity to the left.

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* Read at the meeting of the American Orthopædic Association, Philadelphia, September 17, 1890.

4. Most children with considerable differences in the length of the lower extremities and consequent pelvic obliquity do not develop a rotary lateral curvature.

5. A patient with shortness of the right leg (without joint or muscle trouble) and with the pelvis sloping to the right may develop a curve, with the convexity to the left, in the lumbar region.

6. Lateral curvature with extreme rotation may develop with the spine in the horizontal position. (See specimen of mammalian spine in the Museum of the College of Physicians and Surgeons, New York.)

What is the reason that, out of a hundred pale, flabby, undertrained and overstrained children who assume faulty attitudes, and some of whom have flat feet or crural asymmetry, only a few develop scoliosis?

In estimating the effects of treatment it is necessary to know that many cases of lateral curvature are self-limited, or at least do not progress very far even without treatment. I am constantly discovering mild or moderate forms of scoliosis in adults in the course of examination for other troubles, and some of them have never suspected the existence of the spinal affection. On the other hand, it is even more important to know that very many cases do grow worse unless carefully managed, and some have a strong tendency to go on to extreme deformity, even under persistent treatment.

When beginning cases are brought for an opinion, certain data—such as the height, chest expansion, and Roth's horizontal dorsal contour—should be noted, and the patients should be examined once in a few months to see if the deformity increases. In the mean time explicit directions are given for the regulation of the mental, physical, and social life. It seems clear that regular habits, moderate exercise, stated complete rests in the daytime, plenty of fresh air, and an open-air life, with the avoidance of physical, mental, and emotional forcing and strain, are a vast help to these patients, and I believe that the rational employment of these rational means does arrest the progress of the curvature in many cases.

I have observed several instances of city school-children with moderate osseous curves, but who had never worn braces, who improved notably during a three months' sojourn in the country, with a natural open-air life. On the other hand, I have seen severe curvatures develop in sturdy children brought up in the country under apparently just as favorable conditions. Attention to these points, however, is always imperative and often sufficient in the earlier and milder cases.

The backache and spinal tenderness so sedulously sought by the inexpert are not properly symptoms of lateral curvature. They may be symptoms of a system below par, or of nervous or spinal weakness, and are often accompanied by headaches and other local and general symptoms. A few of these patients have lateral curvature in addition, and a moderate proportion of scoliotics have headache and backache as an expression of their general condition of health. The rib pains and other pains of some of the extreme cases belong to a different category. These patients with backache—usually anæmic and with impaired digestion, nutrition, and elimination, and a faulty nervous and blood distribution—are much benefited by systematic attention to mode of life, general and special exercise, rest, diet, bathing, and mental and moral hygiene, and, if they at the same time happen to be suffering from scoliosis, these indications are all the more clear and urgent. While lateral curvature is not caused by general lack of vigor, it is much more apt to develop in such constitutions when the other necessary factors are present; when it is developed, it acts as a constant drag and strain upon the economy through imperfect equilibrium, overworked muscles, and crowded viscera, according to the grade of the affection. By careful attention to the measures mentioned, for which it is necessary to give specific directions and to secure the co-operation of the patient and her family, and the use of special exercises, we are nearly always able to improve the general health and vigor

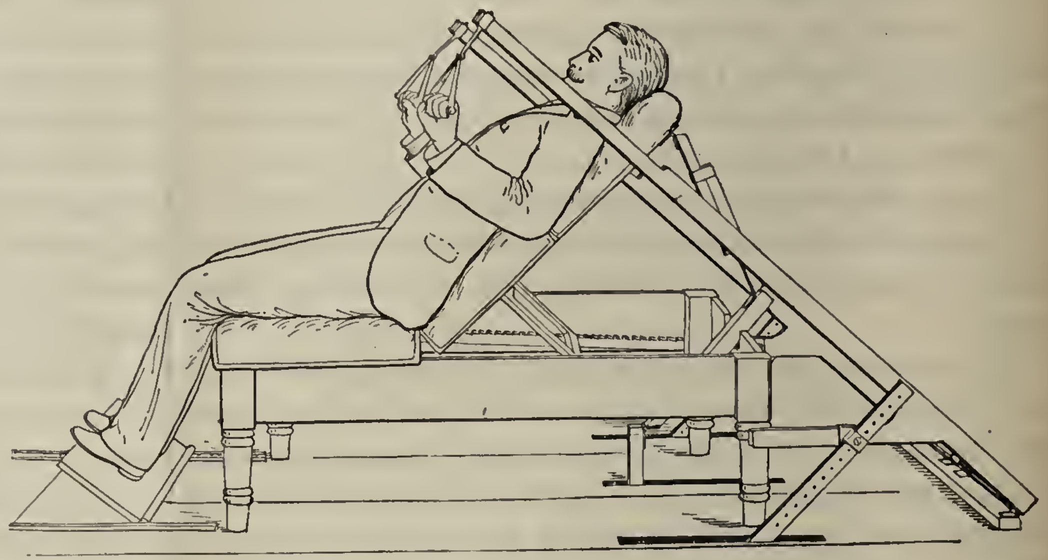

FIG. 1.

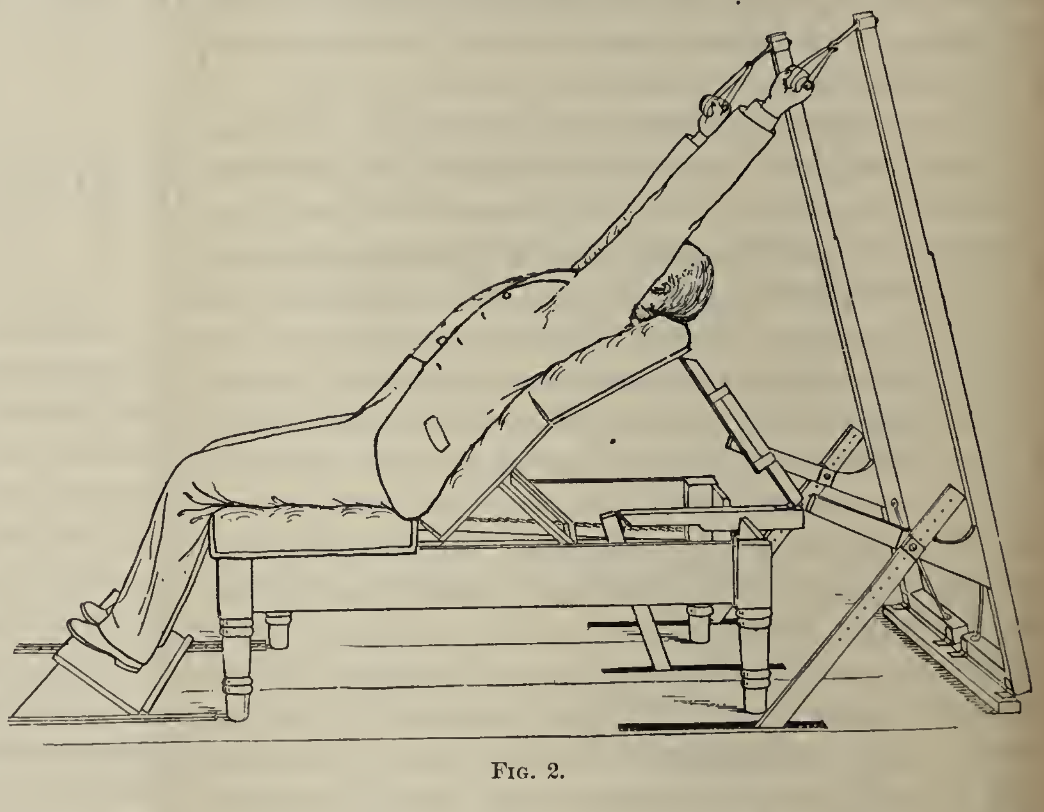

FIG. 2.

of our patients, give tone to the muscles, relieve backache when present, increase endurance, and often improve the attitude and carriage of the body.

As chest power and capacity are threatened or already encroached upon, we give special attention to respiratory exercises, by which means we also favor oxygenation of the blood and improvement of nutrition and circulation, but are careful to avoid overtaxing a system in many instances already delicate and tired. To fulfill these indications we have found nothing so useful as certain specific exercises, mainly passive, adapted by Dr. C. Fayette Taylor from the system of Ling. The apparatus called the respirator (Figs. 1 and 2), elsewhere described,* actuated by steam-power, and giving sixteen deep respiratory movements a minute, is prescribed for nearly all our scoliotic cases requiring special treatment.

By means of another power apparatus we give alternate right and left lateral flexion, forty-six times a minute, of the trunk through the loins, the patient lying on the back. This increases lumbar flexibility, strengthens the muscles about the waist, and acts on the abdominal viscera.

Another useful exercise is taken while the patient lies on a couch made of two halves hinged in the middle, and so contrived that the body may be flexed and extended at the waist against a balancing weight, the upper and lower half being fixed at choice (Fig. 3).† This and the preceding are excellent exercises for improving abdominal circulation and increasing peristalsis, and the latter strengthens the back and abdominal muscles.

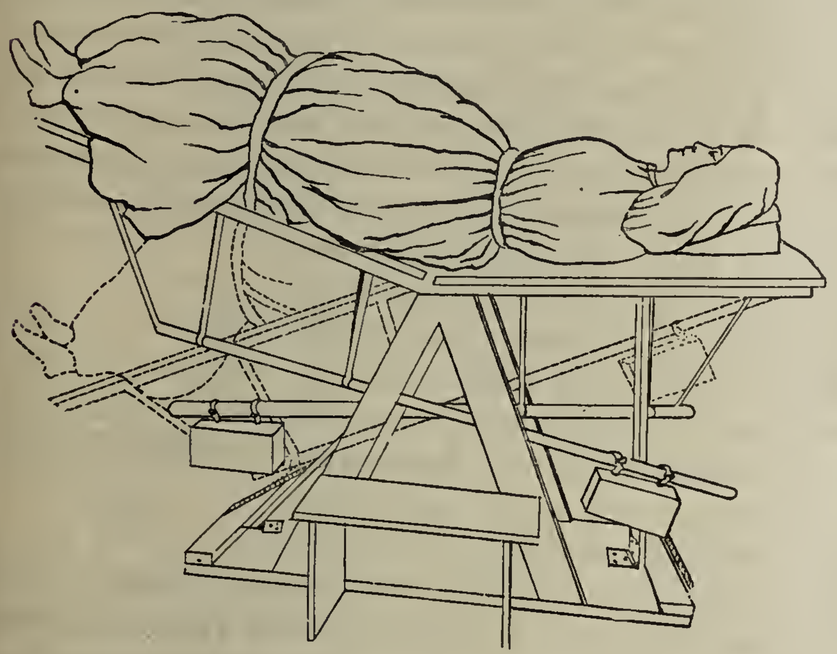

Fig. 3.

To attack the deformity directly, we use lateral suspension from the hands in an apparatus consisting of a vertical, adjustable upright, hinged near the middle and carrying a reversible pad for pressure upon the convexity of the main curve, and a hand-piece for grasping. When the upper part of the apparatus is drawn over to the side, the patient is lifted from the floor, and the weight of the body forces the pad against the projecting ribs in the direction of the longest diagonal of the chest. At the same time the concave or contracted side of the chest is expanded by the wider excursion of the corresponding arm (Fig. 4).*

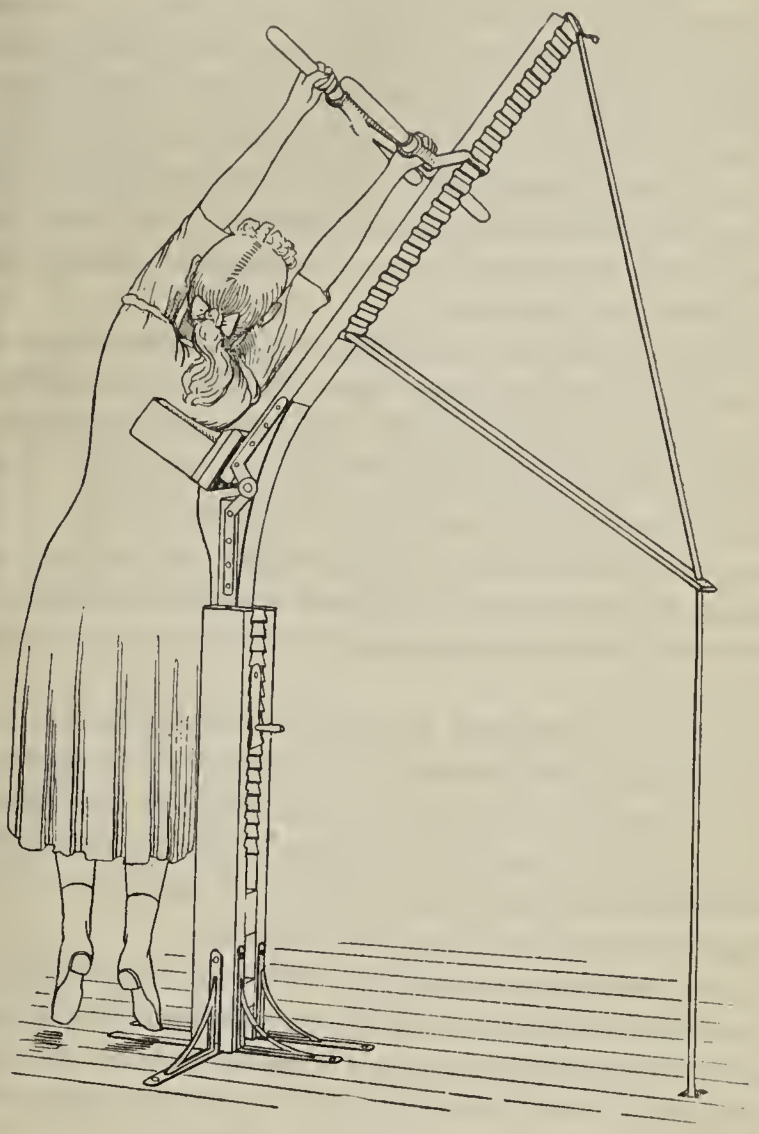

Fig. 4.

In addition to these movements, I have lately given to some of my patients certain active free exercises similar to those recommended by Roth.

We shall be in a better position to judge of the value of prescribed exercise in the treatment of scoliosis when we have more exact information in relation to the special physiology of muscular movements, and particularly of associated and co-ordinated movements. We know well that the contraction of any given muscle or group involves the contraction of many other muscles; in fact, determines a change greater or less in nearly every muscle and tissue of the body; but we need to know how simple and combined movements affect carriage, attitude, and the normal and abnormal positions of the spinal column, and how these effects can be varied to produce specific results.

Whatever factors may be present in addition, we certainly have to do with a problem in balancing. The spinal column sustains the weight of the trunk, but the muscles balance the column. The varying tonicity of the trunk muscles, responsive to changes in position and strain, keep the unstable column delicately poised, but slight causes may destroy this harmonious action, especially in the period of muscular instability and spinal flexibility common in adolescence (and more marked in girls than in boys), and throw continued strain on feeble parts; and further progressive changes will take place in the lines of least resistance.

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* The Therapeutic Value of Systematic Passive Respiratory Movements. *Medical Record*, May 4, 1889.

† From *Spinal Irritation*, by Dr. C. Fayette Taylor, p. 23. W. Wood, 1870.

* Described and figured on page 98 in *Theory and Practice of the Movement Cure*, by Dr. C. Fayette Taylor, 1860.

It should be remembered that the center of gravity of the human body lies in the upper lumbar region, in most cases to the right of the median plane,* which might help to explain the greater frequency of primary lumbar curves and the preponderance of the left lumbar and right dorsal position, since in balancing the body there would be a tendency to bring the upper lumbar vertebræ to the left of the median plane, in order to place the center of gravity over the middle of the base line.

The observation has been made † that scoliosis is rarely seen among people who have been trained from childhood to carry loads on the head, like the peasants of some parts of Europe and of some of the West India Islands. I have been struck with the firm, erect carriage of fencers. Both fencing and the carrying of loads on the head are, in part, exercises in the fine and diffused muscular adjustments of balancing, and contain hints for the training of these cases.

Is it not possible that scoliosis, pre-eminently, so far as we are informed, an affection of civilized countries and cultivated classes so called, is fundamentally but one expression of the faulty, one-sided training of certain areas, with corresponding starvation and atrophy of others that these conditions impose upon muscles and mind?

As to mechanical support to the spine, in addition to the measures already spoken of, my position is that it is of substantial benefit when properly managed in selected cases, and my aim is never to employ it whenever the patient can do as well without it. This is a matter for observation and judgment, but in practice only a certain proportion of the severer cases are so treated. The aim of mechanical support should be not only to correct or hold the spinal deformity, but also to relieve cramped, stretched, and atrophied parts of undue strain by the restoration, so far as may be, of a more normal dynamical equilibrium.

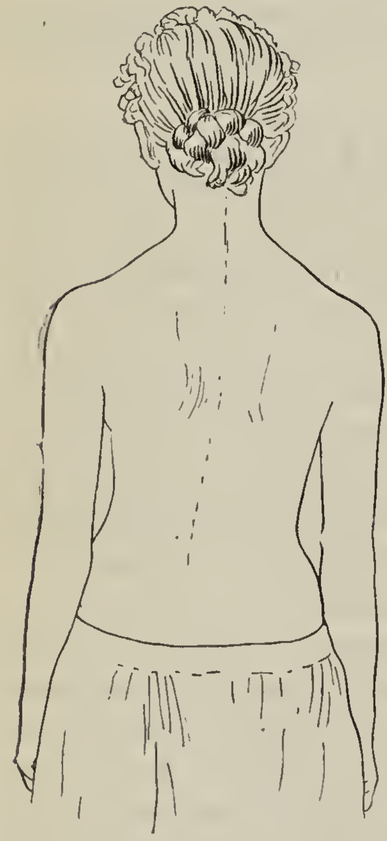

Fig. 5.

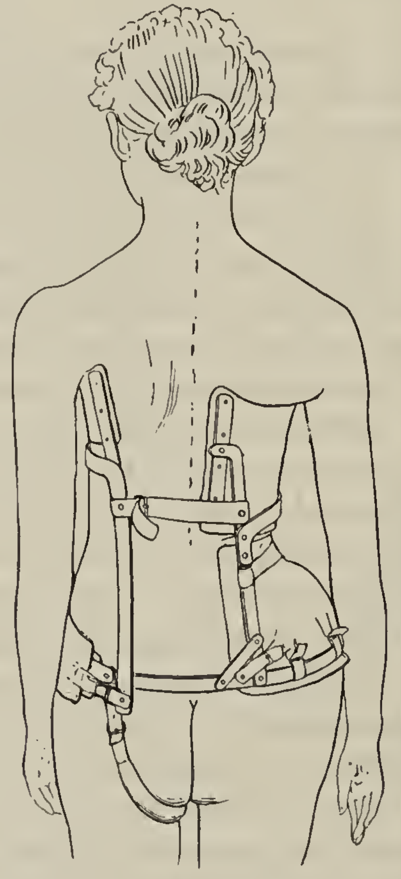

Fig. 6.

For this purpose we use a light steel apparatus acting on the principle of lateral leverage, and worn only during the daytime, while the weight of the body is acting upon the spine.

The details vary in each case according to the indications, but a general idea of a common form employed and its action may be gathered from the cuts (Figs. 5 and 6), which were taken, with slight modifications, from photographs of the same patient, and within a few minutes.

A light steel band, closed at one side by a strap and buckle, passes around the hips above the level of the trochanters. To this an H-shaped, braced steel upright, which carries a broad band of leather on its upper end for pressure against the projecting ribs of the convexity, is fixed at right angles, and the whole is held in position by a flexible hip-piece fitted over the ilium of the side of the prominent curve, and buckled to the hip-band. This hip-piece serves as a fulcrum when leverage is applied by the perineal strap, which unites the two ends of the hip-band, passes under the leg on the side opposite the main curve, and is regulated at the buckle behind. The counter pressure on the side of the trunk opposite the main curve, higher or lower, as is mechanically more advantageous in the particular case in hand, is given by a similar firm leather band supported on the upper ends of a separate steel H-piece, which is completed below by a strap over the hip. The two H-shaped side-pieces are fastened together in front by an adjustable bowed steel U-piece, with a key-hole at each end which slips over a screw head about half way up the front bars of the H-piece (Fig. 7); behind, by a strap and buckle, by which the pressure of the apparatus is adjusted. By working from fixed points on the pelvis (hip-piece and perineal strap), the swaying to one side of the trunk *en masse*, which is often one of the main difficulties, is directly opposed (Figs. 5 and 6). This apparatus requires the nicest judgment in design and the greatest care in its adaptation, and must be modified from time to time to meet special requirements, as the case progresses. It is only a tool, like a violin, which is capable of being manipulated to produce definite results by one who is skilled in its use. Here, as everywhere in orthopædy, it is a question of method not means, principles not rules, and men not machines.

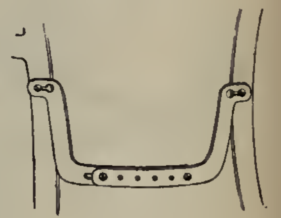

Fig. 7.

I have but briefly mentioned some of the methods we have found useful, fully realizing that there is much more to learn than we now know in regard to this difficult and important subject; but, in spite of our defective knowledge on many points, we expect good results in the milder and earlier cases, and gratifying amelioration in all but the worst of the more advanced cases, provided we can secure hearty and full co-operation.

201 West Fifty-fourth Street.

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* *Vide* a paper by Dr. John Struthers, *Edinburgh Med. Journal*, June, 1863, p. 1086.

† By Dr. C. Fayette Taylor.

NOTE ON
A NEW SYSTEM OF EXACT DOSAGE IN THE CATAPHORETIC USE OF DRUGS.

By FREDERICK PETERSON, M. D.

In a paper of mine, published in the *New York Medical Journal*, April 27, 1889, there are figured two cataphoretic electrodes devised for the anodal diffusion of drugs through the skin. The great drawback, until this present moment, has been the difficulty of accurately regulating the amount of drug introduced. For this purpose rather complicated electrodes have hitherto been required, and even these have been unsatisfactory. I have recently found, however, that all difficulties are easily obviated by the use of a new and exceedingly simple method. Messrs. Waite and Bartlett have made for me a cataphoretic electrode of metal. Instead of covering it, as before, with sponge, the ordinary metal surface is overlaid with a thin disc of platinum, and around the edge of this is placed a narrow rim of soft rubber. The drug to be used is put drop by drop upon a disc of ordinary tissue paper cut to fit the disc of platinum. Filtering paper or linen cloth may be used instead of tissue paper. A disc two or three centimetres in diameter will hold from one to four drops of the solution. When the medicated disc is placed upon the metal surface of the electrode, and the latter then applied to the skin, it is evident that there is a thin capillary layer of the drug in solution exposed to the cataphoretic power of the anode, between the electrode and the skin, and that the quantity of the drug used may be accurately estimated. The current is allowed to flow if desired until the medicated disc becomes perfectly dry. In this way we may drive in one or more drops of chloroform, methyl chloride, ether, ten-to-twenty-per-cent. solutions of cocaine, a one-per-cent. solution of helleborin, solutions of iodide of potassium, corrosive sublimate, aconitine—in fact, any drug we wish to employ in this manner; and at the same time we know exactly how much we are using.

To further simplify the method, I have had medicated cataphoretic discs prepared by a pharmacist for use at any time, for the paper discs may be charged with any amount of a watery solution, and, the water being allowed to evaporate, they may be kept on hand indefinitely. It is only necessary to add two or three drops of water to the disc in administering the drug by electricity.

Mr. Otto Boeddiker, the apothecary, of 954 Sixth Avenue, has made for me, and is prepared to supply any one with, the following cataphoretic discs: Discs of menthol, 2 grains; of helleborin, $\frac{1}{25}$ grain; of strychnine nitrate, $\frac{1}{32}$ grain; of iodol, 2 grains; of corrosive sublimate, $\frac{1}{8}$ grain; of cocaine hydrochloride, $\frac{2}{5}$ grain; of aconitine, $\frac{1}{64}$ grain; of potassium iodide, 4 grains; of mercury succinimide, $\frac{1}{4}$ grain; of lithium chloride, 4 grains.

Pineapple Juice for Diphtheria.—"It is reported that the negroes of Louisiana frequently employ pineapple juice in the treatment of diphtheria; and this treatment is alleged to be successful."—*Druggist's Circular and Chemical Gazette.*

A TYPHOID SEQUEL.*

By J. C. CROSSLAND, A. M., M. D.,
ZANESVILLE, OHIO.

On April 25, 1889, I attended Blanche R., a girl of eighteen years, in confinement. Her labor was natural but prolonged. According to her statement, she had always had a rather weak back. In the latter months of her pregnancy she did considerable hard and heavy labor. During this period she complained of pain, principally in the left shoulder, which after parturition seemed to alternate in the shoulders. I saw her the next day after confinement, and her condition was satisfactory. On the 7th day of May I was called to see her, and found her suffering from pneumonia, involving the entire left lung. The lower lobe of the right lung was subsequently affected. This disease was grave and eventuated in suppurative pneumonitis, which continued for several weeks. In the latter part of this trouble the patient was seized with typhoid fever. She lay sick of the fever about eight weeks. The fever, entailed upon such a grave disease as pneumonia, as you would readily infer, brought the patient nigh unto death—so near that a physician of large experience, who saw her several times in consultation, made a fatal prognosis each time. However, the patient made an incomplete recovery. She so far recovered as to be able to go about the house and help administer medicine to the other members of the family, five in number, varying in age from twelve to sixty-five years, all of whom were sick with the fever. A few weeks after the patient was able to leave the bed she began to experience severe pain in the dorsal and lumbar regions of the spine and along the sides of the chest in the region of the sixth to the tenth ribs, inclusive. There was tenderness to pressure in these regions, with slight elevation of temperature, pain on any motion of the back, a sensation of pressure against the back, and an aching pain in the lower extremities. This condition of things persisted, with remissions and exacerbations, until November, when the patient began to notice loss of sensibility, first in the right foot, then in the left. Loss of motion and a staggering gait were next observed. In the language of the patient, when she tried to put her foot in one place, it would go somewhere else. This loss of sensibility and motion increased and extended as far as the waist. There was spasmodic action of both the extensor and flexor muscles of the lower extremities, also of the lumbar muscles; while she was in the dorsal decubitus there was a tendency to tonic spasms of the flexor muscles. These spasms would last sometimes for an hour, and then be followed by spasms of the extensor and erector spinæ muscles. This condition of things persisted until there was almost complete paraplegia. Spasmodic muscular action existed throughout the trouble. The bowels were in no way affected. There was no retention of fæces and no involuntary stools. For several weeks the urine was greatly diminished, and was voided at times at intervals of twenty-four hours. No bladder trouble, however, arose from this urinary abnormity. There was marked emaciation of the lower extremities. In the mean time, while the spinal trouble was advancing to the paralytic stage, the sternal ends of the sixth, seventh, eighth, ninth, and tenth ribs, and their cartilages, became very prominent, projecting outward and upward in such a manner as to form a support or table upon which the mammary glands rested. After the more acute inflammatory symptoms had somewhat subsided, I did not see the patient until the paralysis had become well marked.

In the early stage of the spinal trouble my treatment consisted of occasional narcotics, liniments, sinapisms, and blisters over the spinal column, tepid baths, occasional small doses of calomel, rest in the recumbent posture as much as possible, and as highly nutritious a diet as the patient's humble circumstances would allow. In other words, I followed the line of treatment recommended by Flint for the affection which I suspected. After the stage of paralysis had been reached, I gave small doses of mercury. I tried iodide of potassium, which disagreed and was withdrawn. Strychnine also disagreed. In fact, this patient had so many idiosyncrasies that it seemed there was little to be hoped from medicines. Fortunately, the patient's appetite and digestion remained fairly good, and much reliance for a time was placed on the *vis medicatrix naturæ*.

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* Read before the Hildreth District Medical Association.

After the paralytic symptoms had reached their height, a galvano-faradaic battery was used two or three times a week. About the 1st of April and some three or four weeks after beginning the use of the electricity the patient began to improve. At the present time she is almost entirely recovered. She has recently walked as far as a mile at one time. The costo-cartilaginous deformity still exists, but is not so marked. There is an anterior curvature in the dorso-cervical region, which renders the spinous processes of the first four dorsal vertebræ very prominent. In the lower dorsal region there is a slight posterior curvature, with some tenderness in that region. The left side of the chest is diminished in size and asymmetrical. The left shoulder droops, but there is no real lateral spinal curvature.

I have not been able to find, in the literature to which I have access, any similar condition of things following typhoid fever. The most light I have been able to obtain on the subject is in an article in the *New York Medical Journal* of November 30, 1889, by Dr. Gibney, of New York.

This case, in its early stage, presents a striking similarity to one or two of Dr. Gibney's cases. Possibly, with fair advantages, in this case the disease might have been arrested and brought to a more speedy termination. It was not until I had read Dr. Gibney's article that I made the diagnosis of periostitis complicated with chronic spinal meningitis, and to him I am also indebted for my lucky prognosis.

I am inclined to the opinion that the pneumonia is accountable, in whole or part, for the costo-cartilaginous deformity, and possibly it may have been a factor in the production of the spinal trouble.

I have been actuated in the report of this case not by the desire to claim any merit for the result, for the patient's poverty was so great and her advantages were so few that medicine and surgery were of comparatively little avail to her, but for the purpose of recording what seems to me a good result from a series of grave and rare affections.

It is a good illustration of the healing power of Nature.

ANEURYSM OF THE ARCH OF THE AORTA.*

By C. N. HAMMOND, M. D.,
BENTLEY CREEK, PA.

On April 2, 1890, I was called to see Miss D., aged twenty-five years, who was suffering from neuralgic pains in her right shoulder and arm. She informed me that she had been suffering about two weeks, and could get no relief from any remedies she had used. She said she had had a similar attack some two or three years before, and had had some form of fever. Her family history was very obscure, she being a foundling.

During my examination I observed her to cough, which induced me to examine her lungs, and I discovered dullness over the right supramammary region. There being no rise of temperature, I thought there might be some caseation or latent congestion. I prepared her remedies which I thought were indicated, and left her. The following day I called and found her feeling, as she expressed herself, "much better."

On April 6th I was again summoned, and found her suffering severely with those neuralgic pains; and she said her right hand and arm would get numb and cold at times. I examined her right lung, and found pulsation and increased dullness where it was on the 2d. I suspected an aneurysm and examined her carefully; but for the most part I got negative results. The radial pulses were synchronous, of equal rhythm and volume, and I could get no "aneurysmal bruit." The tumor, if such it was, was not in the region of any large artery, being too low down for the subclavian and too far to the right for the right carotid or aorta; and I came to the conclusion that it was an intrathoracic tumor, which must come in contact with some large artery that caused it to pulsate, and that its pressure on some plexus of nerves caused the neuralgia of which she complained. I gave her tonics and opiates to keep her comfortable, and ordered five grains of iodide of potassium three times a day. On the following day her condition remained much the same; but, on examination, I heard a bruit, which was absent on the two succeeding days. Her temperature at each visit was about normal. Respiration 20 to 22, with no dyspnœa, and pulse 80.

On the 9th, Dr. W. C. Wey, of Elmira, was called in consultation, and he found the symptoms about as before related, except that there was no bruit. Dr. Wey, with a hypodermic needle, punctured the tumor and found the contents to be blood, but still, as other symptoms were absent, could not be positive of an aneurysm, and the diagnosis was still unsettled as between an intrathoracic tumor and an aneurysmal one. At my visit on the 11th I again heard the bruit, and, from the examination with the hypodermic needle by Dr. Wey on the 9th, I was convinced this must be an aneurysm. Her temperature on the 10th and 11th rose to 100° F.; she was feeling considerably worse, and I advised her to keep her bed. (Up to this time she was about the house most of the time during the day.) At my examination I found the area of dullness about three inches and a half in diameter, nearly circular, and the center about an inch above the right nipple.

At my visits on the 12th and 13th I found her more cheerful and feeling better. Temperature, 99°; pulse, 80; respiration, 22. Bruit quite clear. On the 14th I saw her about 4 P. M., and found her very hopeful; her appetite was improving very much, and she said she felt stronger and rested with less opiates. I found the area of dullness had diminished to about two inches, and I flattered myself that the tumor was being absorbed. I got no bruit. About two o'clock that night (the 14th) she awoke and called for a drink, joked and laughed with the person who waited upon her, and lay down and went to sleep. About 6 A. M. on the 15th, on going to her room, she was found dead, and, to all appearance, had been dead for several hours. An autopsy was held that evening, which revealed an aneurysm given off from the ascending portion of the arch of the aorta, which had ruptured, thereby causing immediate death, also hypertrophy and dilatation of left ventricle of the heart. There were also tubercular deposits in the right lung, which was much atrophied and hepatized. The left was nearly normal. Dr.

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* Read before the Bradford, Pa., County Medical Society, September 2, 1890.

Huff, Dr. Colgrove, and Dr. Voorhis, of Wellsburg, N. Y., were present, and assisted at the autopsy.

The treatment throughout was with tonics, iodide of potassium (which was increased to ten grains three times a day), and opiates.

In reviewing this case, the peculiar phases to me are that I only got the bruit at times, while at others it was absent; also its location. I will add, its shape was something like a pear, the body or fundus of which reached to the right mammary region, and it touched the chest wall only at this point. There was no necrosis observed, and its apparent diminishing in size (perhaps) was its receding from the chest wall by gravity from her keeping in a recumbent posture. The case was a very interesting and instructive one.

A CASE OF MORPHINE POISONING TREATED WITH NITROGLYCERIN.

By A. T. SPEER, M. D.,

NEWARK, OHIO.

C. R., aged seventeen, had been afflicted with disease of the hip joint for two or three years, and, becoming despondent because he could not go to school with his companions, took six grains of sulphate of morphine with suicidal intent at 8 P. M., September 23, 1890. His condition was not noticed until 10 P. M., when, as he could not be aroused, physicians were summoned and efforts made at once to overcome the effects of the morphine. Presuming that the morphine had all been absorbed, the stomach-pump was not used. Atropine—one thirtieth of a grain hypodermically every two hours, he being unable to swallow strong coffee—was injected in large quantities *per rectum* at short intervals. The galvanic battery was vigorously applied. One sixth of a grain of atropine in all was administered, the last dose at 6 A. M.

I was called in consultation at 8 A. M. the following morning. On examining the patient, I found him almost completely cyanosed, pulse 160, respiration 40, temperature 101°, loud mucous râles so as to be heard in the adjoining room, abdominal respiration only, pupils widely dilated (from atropine). Dr. C. H. Stimson, who had charge of the case and who met me at this time, said he had done all he could, but had failed to arouse the patient in the least. I gave an unfavorable prognosis; in fact, I did not think the patient would live more than an hour or two.

Dr. Stimson said he had some of Wyeth's tablets of nitroglycerin which he had thought of using as a last resort. It occurred to me at once that it might be of benefit, from the remarkable results produced by it in poisoning from illuminating gas. We decided to try it, and gave him at once one fiftieth of a grain hypodermically. We waited an hour and repeated the dose. In a few moments I directed him to be turned on his side. Very soon there was a long, full, thoracic inspiration; in about half an hour the patient vomited freely and became conscious. We gave him a hypodermic of one one-hundredth of a grain of nitroglycerin, after which he went to sleep, slept quietly two hours, then awoke and was all right, with the exception of a violent headache, the effect of the nitroglycerin.

I have reported this case in the hope that it may induce others to try the nitroglycerin in poisoning by morphine. I am fully satisfied that without its use the patient would have died.

Correspondence.

LETTER FROM DUBLIN.

The Introductory Lectures.—The Presidency of the Royal College of Physicians.—The Royal Academy of Medicine.—Military Sanitation in Ireland.

DUBLIN, *October 23, 1890.*

THE introductory lectures at the various medical schools and hospitals in Dublin, at the commencement of the winter session, are diminishing in number yearly, and very properly, as they are not only in the vast majority of cases useless to the student, but an irksome and unthankful task to the unfortunate lecturer. There is no regularity in the delivery of these addresses; for example, one was given at Sir P. Dun's Hospital by Professor Bennett on the 1st inst., and the inaugural address at the Adelaide Hospital will not be delivered until the 27th inst. Professor Bennett's excuse for an address was that, as some new wards were opened, the occasion was selected more as an advertisement than for any other reason. He pointed out that the medical and surgical staff returned twenty-five per cent. of the fees paid by students for clinical instruction to the hospital; a generous concession adopted by no other general hospital in Dublin. Some of the surgeons and physicians of our city hospitals have said that they served without fee or reward, and that none of the funds of the institutions with which they were connected went into their pockets. This is true to a certain extent, but all the same the students' fees, amounting to twelve guineas each for the nine months of attendance, are divided among the staff. I see that it is proposed to amalgamate some of the Cork hospitals, and the same suggestion has been made in reference to some of the smaller Dublin hospitals, but the great difficulty which exists is the objection—and a very natural one it is—that many physicians and surgeons would have their services discontinued, and thereby lose their fees. For if several small institutions were amalgamated, the larger institutions then constituted could manage very well with a much smaller staff than the aggregate number at present doing duty in the various hospitals.

On St. Luke's Day, the 18th inst., Dr. J. Magee Finny was elected president of the Royal College of Physicians of Ireland for the ensuing year, and at the termination of his year of office will be eligible for re-election. I can not speak too highly of this distinguished physician, and the fellows of the college could not have nominated a better candidate for the high position of president of their college.

The eighth annual meeting of the Royal Academy of Medicine in Ireland will take place on the 31st inst., when the report for the past year will be submitted and the officers for the various sections appointed. The president of the Academy is Dr. Samuel Gordon, this being his third and last year of office.

The sanitary condition of almost all the barracks in Ireland might be improved, and, as the subject has been brought under the notice of the Government, a sum of £900,000 has been allocated by the authorities for the purpose of making the necessary alterations. Lord Wolseley, the new commander of the forces, is at present on a tour throughout Ireland inspecting the various barracks, and his recommendations will have great weight. The Government has appointed an army sanitary committee, which consists of seven members, and the only non-army man appointed is Sir Charles Cameron, M. D., the efficient medical officer of health for the city of Dublin. All questions referring to the expenditure on barracks will come before the sanitary committee, who will be presided over by Sir Redvers Buller, V. C., K. C. B.

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THE ETHICS OF BOOK REVIEWS.

The ethical relations between the editor of a periodical, his staff of reviewers, the publishers, and the authors of books are somewhat complicated. Without attempting to treat of them at all exhaustively or methodically, we may jot down a few statements that may prove interesting to the various classes of persons concerned. In reviews, as in all other editorial matter, a well-ordered journal is an impersonal entity; the views expressed in it are not to be taken as necessarily reflecting the editor's notions as an individual merely, and so he may conscientiously insert a review differing decidedly in tone from the impression the book may have made on him—he has put it into the hands of a person whom he believes to be competent and fair-minded, and he will hesitate before "changing the politics," so to speak, of a review written by such a person. Nevertheless, he will on some rare occasions feel constrained to do so, and in such instances he will realize the advantages to all concerned of the practice of publishing reviews unsigned. There seem to us to be some other advantages in that practice. It shifts the responsibility from the reviewer to the editor, who from his longer training and more varied experience is better fitted to assume it; and it relieves the reviewer of any suspicion of having colored his article in accordance with either his known admiration of the author or his dislike for him. If reviews are to be signed at all, we think they should be signed with the writer's full name, for we have known a severe review to provoke resentment against a man who was not its author, simply because it was signed with initials identical with his.

Books should be reviewed solely on their merits, without regard to the author's praiseworthy or reprehensible performances not directly pertaining to the book. Of course they should be reviewed in a spirit of fairness—fairness not only to the book, but also to the readers of the journal, who are entitled to the actual truth as to a book that they may think of buying; it seems to us inadmissible to say of a book that "it will prove of great practical assistance to the student and to the practitioner" when both the editor and the reviewer know that that is not the case. This consideration, however, need not run counter to the general principle that it is one's duty to say the best of a book that its character will allow of. It is well to avoid exaggerated statements, such, for example, as that the book under notice is "the best treatise on the subject in existence." There are very few works of which that can be said in strict truthfulness; of various books on the same subject, each is likely to have some points of excellence not to be found in the others.

The foregoing relates chiefly to reviewers. As to authors, they would not be human if they were neither elated by laudatory notices nor depressed or irritated by those of a depreciatory tone. As a matter of fact, many of them crave adulation, and some are inclined to publish their resentment of the most reasonable adverse criticism. It is wise to curb both these propensities; certainly, the cases are very rare in which it is prudent for an author to make any public reply to an unfavorable review or even to an unfair or abusive one. The average reader is usually just, and it is not an easy matter to float a poor book with puffery, or damn a good one by misrepresentation.

The expectations of publishers are not always borne out in the fairest of reviews. Some of them expect too much—especially our American publishers, who are accustomed to more consideration than publishers get, for example, in France, where the standing announcement is to be found in many of the journals that every book of which two copies are sent will be acknowledged, and reviewed *if the journal has space.* But the conditions there are different from ours, and custom warrants our publishers in expecting reviews of all important works. Fortunate is the editor if he has not sent such a book to a person who can not be prevailed upon either to write the review or to return the book.

MUNK'S VISUAL CENTER.

In the *Bolnitchnaja Gazeta* for February 7th, Dr. B. A. Ratimoff gives the history of a case of gunshot wound of the head that he thinks supports Munk's ideas as to the locality of the visual center. A student, twenty-two years old, shot himself accidentally with a revolver. The ball entered the right side of the head at a point eight centimetres above the level of the external auditory canal and three centimetres behind it. Three hours after the accident the patient was perfectly blind, but he was conscious and able to give an intelligible account of his case. His general condition was good; the pulse and temperature were normal, there was no paralysis or paresis, and none of the senses but that of vision were impaired. The pupils reacted perfectly to light, and ophthalmoscopic examination revealed no abnormity of the fundus of either eye. The case was diagnosticated as one of lesion of the visual center, but doubt was felt as to whether or not the center on each side had been injured.

Trephining was resorted to, and the opening made in the skull by the bullet was found to be over a centimetre in diameter. A detached fragment of the inner table lay at the bottom of the wound. This, together with a mass of clotted blood, was removed, and the track of the bullet was explored carefully with the little finger and with a probe to the depth of four centimetres, but the missile could not be found, and the wound was closed, a drainage-tube having been inserted into it. This was on the 30th of September, 1889. By the 8th of October the patient's color-vision was perfect and he was able to read large letters at a distance of five feet, but the field of vision was found to be restricted in the left half of each eye.

The ophthalmoscope revealed no change except an imperfection of outline of the papilla of the right eye. The wound healed by first intention, but on the eleventh day after the operation it took on an unfavorable course; suppuration took place, the brain began to protrude, the power of sight decreased, and the patient suffered with intense headaches, restlessness, delirium, etc. On the 26th of November he was in a state of profound stupor preceded by alternate clonic and tonic convulsions. The stupor lasted for thirty-six hours, after which the speech was imperfect, there was paresis of the left side of the face and of the right upper limb, and vision was considerably impaired, with decided hemianopia. Ophthalmoscopic examination showed neuro-retinitis of equal degree in the two eyes, with moderate enlargement of the retinal vessels.

Death having taken place, it was found that the brain lesion was behind and below the posterior end of the fissure of Sylvius, in the postero-inferior occipital convolutions and in the part corresponding to the gyrus angularis. The brain in general was somewhat flattened on its surface, and the posterior convolutions were almost effaced. The dura was firmly adherent to the brain. The direction taken by the bullet had been from before and above on the right side backward and downward toward the left side, and the missile had destroyed the right visual center, passed through the longitudinal sinus, and entered the left visual center. There was an abscess at the site of each center, and the left one contained the bullet. The author thinks the features of the case confirm Munk's views as to the locality of the visual centers in the human brain.

MINOR PARAGRAPHS.

FATAL URÆMIA IN PERSONS APPARENTLY HEALTHY.

Dr. A. Westphal has described an interesting case, in the *Berliner klinische Wochenschrift*, of uræmic coma resulting fatally in a person apparently in a fair state of health. A young man, twenty-four years old, a joiner, was admitted into the hospital with sudden symptoms of difficulty of breathing, palpitation, swelling of the feet and ankles, and left-sided headache. His history was that of a feeble childhood, but without any serious illness. His feet had never swelled before, there had been no difficulty with the urine, and he had always been able to attend to his heavy work. He had not been a drinker, had not had syphilis, and had not been a worker in lead, and there was no ascertainable heredity. His face was swollen, his ankles were œdematous, and he was manifestly anæmic. The heart was hypertrophied somewhat, the sounds were weak but pure, with no accentuation of the pulmonary or aortic second sound. The pulse was small, regular, and without distinct tension. The urine was clear, acid, of the specific gravity of 1·005, with some albumin, hyaline casts, and leucocytes. There was nothing abnormal in the internal organs or the blood, but there was albuminuric retinitis. During the first few days of his treatment at the hospital the subjective symptoms lightened up decidedly, and he expressed himself as feeling quite well and gave the impression of being not seriously ill. The albumin remained at a small amount, and the quantity of urine varied between forty-five and fifty-eight ounces *per diem*, with a specific gravity of from 1·003 to 1·006. Five days after his admission, aphasic symptoms made their appearance as the forerunner of a severe uræmic attack, which set in with full force during the night; there were both clonic and tonic convulsions, frothing at the mouth, and loss of consciousness. The temperature rose to 103·8° F., the respirations to 60, and the pulse to 160, the cardiac dullness being increased to the right. Death ensued in deep coma from pulmonary œdema. On autopsy, both kidneys were found to be contracted, the right one being somewhat peculiarly displaced, being depressed and lying opposite the fourth and fifth lumbar vertebræ; it was extremely small, not more than two inches long by less than an inch broad, and appeared as a grayish-red fibrous mass with the blood-vessels small and not thickened; from these facts, as well as the microscopic appearances, the condition was judged to be congenital. The case was remarkable as occurring in a young person, without previous uræmic symptoms, who was apparently doing well when he fell into a state of profound coma and died in what was, so far as was known, his first seizure.

THE DISSEMINATION OF THE TYPHOID BACILLUS BY EDIBLE VEGETABLES.

An item regarding the alleged absorption of the typhoid bacillus from the soil into the juices of plants, where the fertilizing agent that has been used has been the night soil from city vaults, has had some currency in our sanitary periodicals. While the typhoid bacillus can at times be detected in the manure obtained from the scavengers, no competent observer has, we think, detected it in the juices of vegetables that have been manured with that substance. The use of such manure is, however, not wholly free from danger, and vegetables that do not pass through the process of boiling in their preparation for the table should be cleansed from all attached foreign matter with unusual care. In the neighborhood of many of our cities the cultivators of celery and other garden vegetables add liquid night-soil manure to their fields in order to advance the growth of their crops. A certain portion of this fertilizer can not fail to lodge on the leaves and stems of such edible plants as celery, which filth will not be all disengaged and washed away by the ordinary processes of cleansing for table use. Celery is especially mentioned because it is peculiarly apt to catch and hold the solid constituents of the scattered cess-pit manure, and in this dirt the bacilli of typhoid fever have been detected time and again.

THE OPENING RECEPTION IN THE ACADEMY OF MEDICINE'S NEW BUILDING.

This event, which is to take place on Thursday evening of next week, is sure to be one of great interest, and the occasion one on which both the Academy and the profession at large are to be congratulated. The reception committee consists of Dr. Alfred L. Loomis, the president of the Academy, Dr. Fordyce Barker, Dr. Francis Delafield, Dr. William H. Draper, Dr. Everett Herrick, Dr. Samuel T. Hubbard, Dr. Abraham Jacobi, Dr. William T. Lusk, Dr. Charles McBurney, Dr. Henry D. Noyes, Dr. George A. Peters, Dr. William M. Polk, Dr. Alexander J. C. Skene, Dr. D. B. St. John Roosa, and Dr. T. Gaillard Thomas. Dr. Loomis is to give an address of welcome, Dr. Edward L. Keyes will deliver the anniversary oration, Dr. Jacobi will speak on the subject of the library, Mr. D. Willis James will speak on The Influence of Scientific Associations upon Great Cities, Dr. John S. Billings, of the army, Dr. S. Weir Mitchell, of Philadelphia, and Dr. Reginald H. Fitz, of Boston, will make remarks, and Dr. Barker will add some words of congratulation. The admission will be by card only.

SCARLET FEVER WITH BUT SLIGHT PYREXIA.

In the *Münchener medicinische Wochenschrift*, Dr. Wertheimer and Dr. Beetz have reported four cases of scarlet fever without the usual pyrexia. In one case, that of a child of seven years, the highest temperature observed was 99·6° F.; the pulse was high, being from 116 to 120 during the greater part of three days. The other scarlatinal symptoms were well marked, and desquamation took place on the ninth day of the eruption. Another child had for its maximum temperature 100·6°, on the evening of the second day, with the pulse high as in the former case. In two of the cases the condition of the urine was noted as not albuminous. In the two others this symptom is not referred to. Dr. Wertheimer advances the opinion that the diagnostic importance of a continuous high pulse in apyrexial cases may be greater than has hitherto been recognized generally.

FATAL POISONING WITH MALE FERN.

An account of a case of this nature is given in the *Therapeutische Monatshefte*, in which death ensued upon the administration of two drachms of the ethereal extract of male fern, given as an anthelminthic. A child, five years and a half old, was given the amount named, within an hour and three quarters, in three doses. A portion of the tapeworm was expelled in an hour and a half; then vomiting set in, followed by somnolence, twitching, and trismus lasting ten minutes. Death took place in five hours after the last dose was given. At the necropsy there was found tuberculosis of the lungs and abdominal glands; and the unusual results from a dose of the extract, such as was given, were presumably due in part to the impaired resistance to the action of the drug incident to a physique broken by tuberculous disease.

THE ANATOMY OF THE ELEPHANT'S EAR.

The anatomy of the elephant's ear forms the subject of two notable papers in the *Transactions of the American Otological Society* for the current year, by Dr. Albert H. Buck and Dr. Huntington Richards. Dr. Buck's article is a revision of his description of two years ago, founded on further and less restricted observation of the specimen in the Museum of Anatomy of Cornell University. The three contributions, taken together, constitute a most valuable addition to our knowledge of the structure of the organ of hearing.

THE ACADEMY OF MEDICINE'S SECTION IN GENITO-URINARY SURGERY.

The first meeting of the Academy's new Section in Genito-urinary Surgery was held on Thursday evening, the 13th inst. The meeting was called for the purpose of electing officers, perfecting the organization, and listening to an address by Dr. Fessenden N. Otis. The standing of the gentlemen who are taking part in the work is an ample guarantee that the new Section will be creditable to the Academy and to the New York profession.

THE AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES.

This organization takes cognizance not only of alcoholic inebriates, but also of victims of the opium habit. It is to hold a series of monthly meetings in New York for the study of medical problems connected with these subjects. The secretary, Dr. Crothers, of Hartford, informs us that all the leading writers in this field are to present papers at the monthly meetings, and we do not doubt that they will prove of great utility.

THE ARMY SURGEON.

The *British Medical Journal* asks the army surgeons of England to keep in mind and cherish that motto of Ambroise Paré which says: "He who follows his profession for the sake of money and not for honor and knowledge will accomplish nothing." The British War Office, the *Journal* says, does not intend to divert the surgical staff from its highest aims.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 11, 1890:

DISEASES.	Week ending Nov. 3.		Week ending Nov. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	25	6	25	9
Scarlet fever	39	1	74	9
Cerebro-spinal meningitis	2	1	2	2
Measles	97	6	174	15
Diphtheria	54	17	96	29
Small-pox	0	0	1	0
Varicella	5	0	2	0

The Discussion on Rabies at the Academy of Medicine.—In the report published in the last issue of the Journal, the paragraph beginning on the first column of page 530 was an abstract of a paper by Dr. Hermann M. Briggs. As published, it appeared to be a portion of Dr. Dana's paper.

The New York Obstetrical Society.—At the annual meeting, held on October 21st, the following officers were elected: President, Dr. Joseph E. Janvrin; vice-presidents, Dr. Henry C. Coe and Dr. Robert A. Murray; recording secretary, Dr. Arthur M. Jacobus; assistant secretary, Dr. James R. Goffe; corresponding secretary, Dr. Augustus H. Buckmaster; treasurer, Dr. Lee J. Morrill; and pathologist, Dr. Calvin T. Adams.

The Society of the Alumni of Charity Hospital.—At a meeting held on Tuesday evening, the 11th inst., Dr. W. Oliver Moore was announced to read a paper on The Necessity for the Early Correction of Errors of Refraction in Children, and Dr. W. L. Carr to report An Interesting Case of Rheumatism complicated with Amygdalitis and Chorea.

The American Academy of Medicine.—The Constitution was altered at the last annual meeting, so as to admit, in addition to those possessing the degrees of A. B. and A. M., those who can present evidences of a preparatory liberal education equivalent to the same. Dr. J. E. Emerson, of Detroit, chairman of the committee on eligible fellows, will forward to any applicant copies of the amended Constitution and By-laws, List of Members, and other information as to the Academy.

The Medico-legal Society.—The programme for the meeting of November 12th announced papers as follows: The Legal Test of Lunacy, by Judge H. M. Somerville, of the Supreme Court of Alabama; The Insane Colony at Ghent, Belgium, by Dr. Margaret A. Cleaves; and Epilepsy as a Defense for Crime, by Professor John J. Elwell, of Cleveland, Ohio.

The German Universities.—Dr. Ernst Küster, of Berlin, has been appointed professor of surgery at Marburg, to succeed Professor Braun, who replaces Professor Mikulicz at Königsberg, the latter having been transferred to Breslau.

The New York Academy of Anthropology.—On Tuesday evening, the 11th inst., Dr. William C. Wile, of Danbury, Conn., gave a lecture before the Academy on the subject of Preventive Medicine.

The Brooklyn Surgical Society.—At the recent annual meeting, Dr. George R. Fowler was elected president, and Dr. H. Beeckman Delatour secretary and treasurer.

The Jefferson Medical College.—The *Medical News* announces that the chair of therapeutics and materia medica has been declared vacant.

Changes of Address.—Dr. W. H. Bates, to No. 131 West Fifty-sixth Street; Dr. Charles S. Collins, from Schenectady, N. Y., to No. 163 West 129th Street, New York; Dr. Robert C. Myles, to No. 25 West Thirty-sixth Street.

The Death of Dr. Albert Vogel, of Munich, took place on October 9th, in his sixty-first year. This eminent teacher, author, and social leader was a native of Munich, who had made his professional reputation at the University of Dorpat, where he spent twenty years, chiefly in the chair of pædiatrics. His book on *Diseases of Children* had passed through ten editions and had been translated into several languages; his eleventh edition had engaged his attention during the last year of his life, and was only recently announced. He was the recipient of many honors from the Emperor of Russia at the time of his retirement from Dorpat, and his return to Munich in 1886 was followed by many tokens of respect on the part of the authorities of his native city.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 2 to November 8, 1890:*

Crosby, William D., Captain and Assistant Surgeon, is, by direction of the Acting Secretary of War, granted leave of absence for four days. Par. 2, S. O. 259, A. G. O., Washington, November 5, 1890.

La Garde, Louis A., Captain and Assistant Surgeon, is detailed as member of board for duty in connection with the World's Columbian Exposition, and will report by letter to Major Clifton Comly, Ordnance Department, member of the board of control and management of the Government exhibit to represent the War Department. Par. 1, S. O. 260, A. G. O., Washington, November 6, 1890.

Bache, Dallas, Lieutenant-Colonel and Surgeon, Medical Director, Department of the Platte, is granted leave of absence for one month. Par. 6, S. O. 82, Department of the Platte, Omaha, Neb., November 1, 1890.

Arthur, William H., Captain and Assistant Surgeon, is relieved from duty at Fort Bayard, New Mexico, and will report in person to the commanding officer, Fort Grant, Arizona Territory, for duty at that post, relieving First Lieutenant William B. Banister, Assistant Surgeon. Lieutenant Banister, on being relieved by Captain Arthur, will repair to this city and report for duty to the commanding officer, Washington Barracks, District of Columbia. Par. 12, S. O. 254, A. G. O., Washington, D. C., October 30, 1890.

Wakeman, William J., Captain and Assistant Surgeon, is relieved from duty at Fort Bidwell, California, to take effect on the final discontinuance of that post, and will then report in person to the commanding officer, Fort Huachuca, Arizona Territory, for duty at that station. Par. 12, S. O. 254, A. G. O., October 30, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 8, 1890:*

Edgar, J. M., Passed Assistant Surgeon. Ordered to the U. S. Steamer San Francisco. November 10, 1890.

Spratling, L. W., Assistant Surgeon. Ordered to the U. S. Steamer San Francisco. November 10, 1890.

White, Charles H., Medical Inspector. Ordered to the U. S. Steamer San Francisco. November 10, 1890.

Scott, Horace B., Passed Assistant Surgeon. Placed on the Retired List. October 31, 1890.

Ashbridge, Richard, Passed Assistant Surgeon. Surveyed and sent to hospital, Philadelphia, Pa.

Kennedy, R. M., Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to U. S. Training-ship Richmond.

Atlee, L. W., Assistant Surgeon. Ordered to the Navy Yard, League Island, Pa.

Society Meetings for the Coming Week:

Monday, *November 17th:* New York County Medical Association; New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *November 18th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *November 19th:* Tri-State Medical Association of Mississippi, Arkansas, and Tennessee (first day—Memphis); Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medico-legal Society; New Jersey Academy of Medicine (Newark).

Thursday, *November 20th:* Tri-State Medical Association of Mississippi, Arkansas, and Tennessee (second day); New York Academy of Medicine; Brooklyn Surgical Society; Metropolitan Medical Society (private); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *November 21st:* New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *November 22d:* New York Medical and Surgical Society (private).

Obituaries.

Dr. Henry Jacob Bigelow, of Boston, died on October 30th, at the age of seventy years. He had for many years, beginning in 1849, been the professor of surgery and clinical surgery at Harvard University and the foremost surgeon of New England. He was the son of an eminent physician, Dr. Jacob Bigelow, and was educated at Harvard, taking his medical degree in 1841. He was Boylston prizeman in 1844, with an essay on the subject of orthopædic surgery, and from that time began the publication of surgical papers that fixed his reputation for originality, capacity, and skill in his art. His development of the operation of lithotrity extended his repute abroad, and in 1882 the Academy of Medicine at Paris recognized his work in that department of surgery by the award of a prize. In that year he was made emeritus professor of surgery after thirty years of active duty in the Harvard University Medical Department. In 1886 Dr. Bigelow retired from active practice. His health had been failing for some time by reason of gastric and hepatic disease.

Letters to the Editor.

McBURNEY'S POINT.

198 Second Avenue, New York, *October 31, 1890.*

To the Editor of the New York Medical Journal:

Sir: In a most excellent paper, entitled A Contribution to the Study of Appendicitis, read before the New York Surgical Society, October 8, 1890, and published in the *New York Medical Journal*, October 25, 1890, Dr. Lewis A. Stimson refers in terms of the most appreciative and well-deserved admiration to a paper by Dr. Charles McBurney on Experience with Early Operative Interference in Diseases of the Vermiform Appendix, read before the same society on November 13, 1889, and published in the same journal for December 21, 1889.

I quote from Dr. Stimson's paper: " . . . and, above all, he [Dr. McBurney] pointed out the means by which the presence of the disease [appendicitis] might be recognized at the very outset. Perhaps the most valuable result of the publication of Dr. McBurney's paper has been the readiness and certainty with which the disease is now recognized, and the wide extension that has been given to this addition to our diagnostic resources."

The addition to our diagnostic resources referred to is thus described in Dr. McBurney's paper: "And I believe that in every case the seat of greatest pain, *determined by the pressure of one finger*, has been very exactly between an inch and a half and two inches from the anterior superior spinous process of the ilium on a straight line drawn from that process to the umbilicus." As a proper recognition of the value of this symptom, Dr. Stimson very gracefully speaks of this point as "McBurney's point." And credit has certainly never been more justly awarded.

Dr. McBurney goes on to say: "This may appear to be an affectation of accuracy, but, so far as my experience goes, the observation is correct."

As far as my own experience goes, this is not an affectation of accuracy, and the observation is decidedly correct.

I operated in my first case of perityphlitic abscess on March 15, 1879. I had watched the case from day to day from its incipiency, eight days before the operation, and was particularly impressed with the persistence of a small point of greatest pain on pressure on a direct line drawn from the anterior superior spine of the ilium to the umbilicus. During the first days it was located exactly where Dr. McBurney describes it as invariably found—two inches from the anterior superior spine of the ilium. Later on, as the abscess pointed toward the surface, the point of greatest sensitiveness shifted along the above-described line toward the umbilicus, until it reached a point midway between the navel and the anterior superior iliac spine.

In all the cases of perityphlitis, or, as in the light of a better pathology we ought now to call them, of appendicitis, that I have encountered since, I have *invariably* noted the same condition. If the case was seen early, the point of greatest tenderness on pressure was found slightly to the outer side of the center of a line drawn from the anterior superior iliac spine to the umbilicus. If seen later, whether a decided tumor had formed or deep-seated induration was all that could be felt, the point of greatest tenderness had shifted to almost exactly the center of the above-mentioned line. The only variation that I have observed from this rule was in two or three instances *very* late in the disease, when the point of greatest tenderness had shifted in the direction of the thigh to half an inch below the center of the line between the umbilicus and the anterior superior iliac spine.

In reporting a discussion on the diagnosis between pyosalpinx and perityphlitic abscess, which occurred at a meeting of the New York State Medical Association on September 25, 1889, nearly two months before Dr. McBurney read his paper, the *Medical Record* for October 5, 1889, page 385, says: "Dr. Edebohls mentioned two diagnostic points in distinguishing between perityphlitic abscess and pyosalpinx. In the former the tumor lay midway beneath a line drawn from the anterior superior spinous process of the ilium to the umbilicus. The second point," etc.

The *New York Medical Journal* of October 19, 1889, page 442, quotes me to the same effect on this point. I should like to take this occasion, however, to call your attention to an obvious mistake on the part of your representative, who reports me in the same discussion as saying: "He [Edebohls] had often found a perityphlitic abscess six or seven days old developed enough to enable him to reach it, whereas a pyosalpinx could never be reached in that way." The sentence should read: "He [Edebohls] had *never* found a perityphlitic abscess until six or seven days old developed enough to enable him to reach it *per rectum*, whereas a pyosalpinx could always be reached in that way."

My experience with appendicitis embraces in the neighborhood of thirty cases. About one third of these were seen in private practice, the remaining two thirds chiefly in the wards of St. Francis Hospital. As gynæcologist to the latter institution, nearly all cases of abdominal tumor in the female are referred to me for examination and diagnosis. For many years past I have invariably taken the opportunity, when a case of appendicitis or perityphlitic abscess presented, to call the attention of the house staff to the value of the sign, now known a McBurney's point, in reaching a diagnosis. The patients, after a diagnosis of appendicitis was established, were transferred to the surgical division of the hospital.

This may serve to account for the fact that although I have seen and diagnosticated a fair number of cases of appendicitis, I have operated upon only three patients, all of them in private practice. The first of these operations took place on March 15, 1879, on the ninth day of the illness; 250 grammes of pus were evacuated and the patient recovered. The second occurred on January 7, 1884, on the seventh day of the illness; acute purulent peritonitis coexisted with the pericæcal abscess at the time of the operation, and the patient died. The third patient was operated upon on July 17, 1889, sixty-six hours after the onset of the disease; half a teaspoonful of pus was evacuated and the patient made a rapid recovery.

Others may, like myself, have long since learned by independent personal observation the value of McBurney's point in the diagnosis of appendicitis and pericæcal abscess. Indeed, it is scarcely probable that so striking a sign could so long have escaped the attention of all clinical observers. To Dr. McBurney, however, belongs the credit of having directed the attention of the profession to the point now justly associated with his name, and of having proved its diagnostic importance in appendicitis by a larger number of operations performed in the early stages of the disease.

In conclusion, I would be permitted to cite again from Dr. McBurney's paper, as expressing fully the result of my own experience on the subject, the following sentence: "Much greater tenderness at this [McBurney's] point than at others, taken in connection with the history of the case and the other well-known signs, I look upon as almost pathognomonic of appendicitis." George M. Edebohls, M. D.

Saratoga, N. Y., *November 3, 1890.*

To the Editor of the New York Medical Journal:

Sir: Though firmly believing in the great value of "the McBurney point" in the diagnosis of appendicitis, the following case would seem to illustrate that, in case the patient is a woman, it is not always to be relied upon. On August 31, 1890, I was called in consultation to see Mrs. M., a widow, of good moral character and the mother of one child. The patient had been taken acutely ill on the 22d with headache, slight chills, pain in the lower portion of the abdomen, nausea, and vomiting, the pulse and temperature ranging from 96 to 100 and 99° to 101° F. respectively. This continued until the 29th, when all symptoms subsided to such an extent that the patient believed herself recovering. On the morning of the 31st, at nine o'clock, she was taken with a violent pain referred to the region of the uterus. This was accompanied by a very severe chill, which did not cease until the attending physician arrived and administered morphine subcutaneously. At this time her pulse was 50 and her temperature 96° F. The previous history, as given me by her attending physician, was not concise or well defined, for the reason that, during the time the lady had been under his care—about two years—she had been somewhat erratic in her calls and to a great degree uncontrollable by her physician. Prostration, headache, dyspepsia, and pain in the lower portion of the abdomen were the principal symptoms of which she had complained during that period. Speculum examinations made at the physician's office at various times had shown chronic cervical endometritis. At 9 P. M. on August 31st I saw her for the first time. Lying on her back with the knees drawn up and supported by pillows, her face pale and anxious, with sunken eyes, she presented the appearance of being very ill. Her pulse was 130 and feeble, her temperature 102° F. An examination of the abdomen showed considerable distention and soreness over its whole extent. The McBurney point was exceedingly tender—far more so than any other spot on the abdomen. The left side was also tender at a point corresponding to the McBurney point on the right, yet to not nearly the same extent as the latter. This fact was very clearly made out and verified by the other physicians who were present at the operation, two hours later. A diagnosis of septic peritonitis was made and, though the chances of saving the patient's life seemed almost *nil*, an immediate operation was advised, as offering the only hope. To this, consent was readily granted. At 11 P. M., with the assistance of Dr. Grant, Dr. Inlay, Dr. Newell, and Dr. Swan, who concurred in the diagnosis of septic peritonitis, and in thinking it probable that disease of the appendix was the cause, the operation for the removal of that organ was done. On opening the peritonæum, thin pus and flakes of lymph escaped in considerable quantity. The appendix vermiformis, about three inches in length, was found lying along the lower side of the cæcum, and in a perfectly healthy condition. There was in its appearance no apparent departure from a normal state. Our light was poor—kerosene lamps—and the origin of the pus could not be discovered through the wound. The patient was in such an enfeebled condition that it was thought best to do nothing more except a thorough irrigation of the lower portion of the peritoneal cavity with warm Thiersch's solution. This brought away a quantity of pus and lymph flakes. A drainage-tube was inserted well down into the iliac fossa, stitches sufficient to retain the intestine were introduced, and the external wound was dressed with iodoform and sublimated gauze held in place by a bandage. After recovering from the anæsthetic the patient's pulse was 106 and her temperature 99° F. Two of the physicians remained with her during the remainder of the night, and, in conjunction with the nurse, one remained with her almost constantly until she died. After the first rally she grew more and more feeble and died thirty-four hours after the operation. Seven hours later an autopsy was had at which Dr. Grant, Dr. Inlay, and myself were present. On opening the abdomen, the small and large intestines were found plastered over with pus at intervals throughout their whole extent. The true pelvis was filled with pus and flakes of lymph. On sponging this out, the cause of the peritonitis became apparent in that the right ovary had been the seat of a large abscess that had ruptured into the peritoneal cavity. The ovary was lying directly underneath the caput coli. The left ovary was acutely inflamed, and enlarged from cystic degeneration. Both ovaries were covered with flakes of lymph. The uterus was normal in position and size. The tubes appeared to be perfectly healthy. No adhesions to any of the surrounding parts existed between the uterus, ovaries, or tubes.

I am induced to report this case mainly from the prominence given to the symptom, now very properly named by Dr. Stimson the McBurney point, in all the recently published articles on appendicitis; the apparently almost pathognomonic significance of this symptom; and the fact that I have not yet seen reported a case that has come to operation wherein this symptom existed in which the trouble has not proved to have been originally in the appendix. In the paper read before the New York Surgical Society on October 8th by Dr. Lewis A. Stimson, and published in the *Journal* for October 25th, Case XIX therein related has a general history common to both these cases. In that instance Dr. Stimson chose the median incision, thinking perhaps the peritonitis had another cause than appendicitis. In that case appendicitis was the cause of the peritonitis, while in the case here related no disease of the appendix existed. I might also add, my patient had had none of the diseases commonly said to be the cause of oophoritis—*i. e.*, gonorrhœal infection, puerperal septic absorption, acute rheumatism, or the eruptive fevers.

W. H. Hodgman, M. D.

MENTAL WORK AT GREAT ALTITUDES.

1316 Van Ness Avenue, San Francisco, *November 6, 1890.*
To the Editor of the New York Medical Journal:

Sir: Your *Journal* of October 25th contains a most interesting article of Dr. Eskridge, of Denver, Col.—Nervous and Mental Diseases observed in Colorado. As an appendix to it, allow me to call your attention to an article by Dr. M. Janssen in the *Semaine médicale*, 1890, No. 43, p. 366, entitled, Rapports entre l'effort physique et l'état intellectuel dans les hautes altitudes.

Let me give you some details about my ascension to the summit of Mont Blanc, between 4,400 and 4,800 metres in altitude. So far as I know, I am the only one who enjoyed, all through, the integrity of my intellectual forces; in fact, instead of becoming depressed, they were rather excited and more powerful, which I attribute to the absence of all physical effort during the whole expedition, for when I made bodily efforts during previous ascensions, I felt in a light degree all the troubles of which travelers complain in high altitudes. When ascending Grand Malets under great efforts, I felt this *mal de montagne* during the journey which followed the ascension. I could not think about my observations, nor carry out any intellectual labor; I felt too weak and nearly fainting; so that I had to inspire deeply and often to collect my thoughts. This time I rested four days in the hut des Bosses, and had an excellent appetite, though the fare was not my habitual one, and as long as I did not use up my bodily strength my mind remained clear, and after the first sleep I could perform mental work. Even at the top of Mont Blanc I felt no malaise and my intellectual faculties were in order; in fact, my excitement came from the inward satisfaction which I felt, so that I came to the conclusion that intellectual labor was possible in high altitudes as long as one abstained from all physical efforts.

Living on the Pacific Coast, *nous sommes toujours trop tard*, but better late than never.

S. Lilienthal, M. D.

THE ACADEMY OF MEDICINE'S DELEGATES TO BERLIN.

110 West Thirty-fourth Street,
New York, *November 8, 1890.*
To the Editor of the New York Medical Journal:

Sir: In to-day's *Journal*, on page 518, you publish a brief editorial in which you say: "The programme for the meetin [of the New York Academy of Medicine] on Thursday evening of this week consisted of reports of so-called 'delegates' to the Tenth International Medical Congress—eleven in number. It is well known that these congresses are not made up of delegates. It was therefore a work of supererogation for the Academy to appoint them, and to devote a meeting to their 'reports' seems to us to argue such a lack of legitimate material as ought not to be encountered at this time of the year."

In order to prove that this criticism is not based on facts, I have the honor of referring you to a circular of the American subcommittee (consisting of Dr. S. C. Busey, Dr. W. H. Draper, Dr. R. H. Fitz, Dr. H. Hun, Dr. A. Jacobi, Dr. W. T. Lusk, Dr. W. Osler, Dr. W. Pepper, Dr. F. Peyre Porcher, and Dr. J. Stewart) which was sent to and printed by a large number of American medical journals, and contained the following sentence: "Delegates of American medical societies and institutions, and individual members of the profession, will be admitted on equal terms."

This notice was based on the contents of an official letter received from the secretary-general, Dr. O. Lassar, dated February 28, 1890, part of which reads as follows: "It would please us very much if our invitation were given publicity by your national committee, with your recommendations. We imagine that could be best accomplished by a request directed to all the large societies to participate in the congress, either *in corpore* or by delegates." This letter, Mr. Editor, I shall take pleasure in submitting to you. Finally, I can assure you that a number of names contained in the official rolls of the central office had the word "delegate" added to them. A. Jacobi, M. D.

APHONIA CAUSED BY LEAD POISONING CONTRACTED BY THE ABUSE OF SNUFF.

69 West Eleventh Street, *October 24, 1890.*

To the Editor of the New York Medical Journal:

Sir: The following case is unique and may point a moral for some of our younger professional brethren: I was called to attend a young woman suffering from acute aphonia. She was a married woman, but of rather a loose aspect, so I had very little diffidence in making inquiries looking to a syphilitic origin of her trouble, but, to my astonishment, no such history could be evolved. On further inquiry as to her habits, I was informed that my patient "dipped"—*i. e.*, rubbed snuff into her gums. I examined her mouth, and, while doing so, was rather surprised to notice the signs of lead poisoning round the gums. I took a portion of the snuff to my office and examined it chemically, and found it *strongly adulterated with lead.* This was the key to the mystery. The local application of the lead had induced paralysis of the laryngeal nerve.

She was quite restored in two days by increasing doses of iodide of potassium. She stopped the "dipping" in a hurry, and has had no recurrence of her trouble since, a year ago.

Robert Ormsby, M. D.

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of October 20, 1890.

The President, Dr. George T. Harrison, in the Chair.

Omental Hernia.—Dr. T. H. Manley exhibited a large amount of omentum which he had removed from a patient recently operated upon. The man, now thirty years of age, had as a youth suffered from hernia, which had been cured by wearing a truss. It had given no indication of its existence until some six months ago, when he had noticed some protrusion on the right side. This had rapidly developed, and no mechanical arrangement could be adjusted that could be worn with comfort and efficiency. He had come to the hospital for radical relief. On cutting down, the sac was found to contain only omentum, which was removed, and the result had been so far satisfactory. The speaker thought that, as the cause had been merely omental, and this had been done away with, there was little danger of recurrence.

Ectopic Pregnancy.—Dr. Manley also showed a fœtus and secundines which he had recently removed. The patient, who had been treated by two other physicians before the speaker had been called, was found by him in a pretty serious condition. Her bowels were inactive, and there were suppression of urine, fever, and tympanites. On the left side there was a decided fullness, and, from the general condition of the woman, it was evidently a purulent formation. He cut down over this protrusion and came upon a large sac formed by recent adhesions of the intestines. This sac contained partly organized blood-clots in considerable quantity. The removal of these revealed a fœtus. The cord was found to stretch across the abdomen, the placenta being attached upon the opposite side to that on which the fœtus was lying. He established drainage through Douglas's *cul-de-sac.* The woman had made an excellent recovery so far.

Lichen Planus.—This was the title of a paper by Dr. L. D. Bulkley. (To be published.)

Dr. A. R. Robinson said that he could not agree with the speaker as to the ease with which a case of lichen planus might be diagnosticated. A well-marked case might be, it was true, but many times, without numerous observations, it would, he thought, be impossible. There were many cases of eczema from which it would be difficult to distinguish it, and only by watching the duration and course could a conclusion be arrived at. He thought too little was understood of the ætiology of the disease; when more was known, the treatment might be more efficacious. He considered it a parasitic disease. Treatment based upon this assumption gave fair results. He had once been opposed to the use of arsenic, but now believed that a large number of cases could be cured with it. This was no proof that the disease was not parasitic. He had made an error in the matter of dosage. The arsenic would be required in some cases to be administered in very large doses. Any statements to patients as to the time required for curing a case of lichen planus should be guarded.

The Treatment of Fractures.—A paper with this title was read by Dr. E. von Dönhoff. (See page 536.)

Dr. Joseph D. Bryant said that the writer of the paper had presented for consideration some suggestions decidedly unusual as to the treatment of fractures, and contrary to the methods advocated by teachers and text-books, as well as those employed in hospital practice and by surgeons at large. As to the diagnosis of fractures, he would state what he believed to be a proper principle in making it. The first step should be a careful comparison of the injured limb with the uninjured one. No surgeon should attempt to diagnosticate a fracture without making this comparison. He deprecated the plan of giving an anæsthetic for the purpose of making a diagnosis or seeking for crepitus. Its use as an aid in diagnosis was admissible only in the event of the existence of great swelling or for the better adjustment of the fragments. The necessity of the employment of early passive motion was not believed to be as important at the present time as in the past. In fact, it was common nowadays for reputable surgeons to omit the employment of passive motion altogether during the treatment of the fracture, except, perhaps, in cases where the fracture communicated directly with a joint. At all events, there was good reason to believe that passive motion was not so essential to successful results as it had formerly been considered. The late Dr. Henry B. Sands, in a paper read before the New York Surgical Society, had emphasized this matter in a most admirable and convincing manner. There seemed now to be no doubt of the fact that the prolonged confinement of an uninjured limb would not result in any danger of ankylosis. He did not agree with the writer's conclusion, as drawn from Macewen's operation of osteotomy. The limbs of children when fractured always united very quickly, and there was no reason why a fracture of a bone of a lower extremity should not unite sufficiently in twelve or fourteen days, provided the fracture was a transverse one, to allow the weight of the bone to be borne upon the limb. However, he deemed it unwise that any such condition as this should be construed to mean that the appliances could be removed with safety to the limb. In the majority of fractures the dressings might be dispensed with in about four weeks, provided there was positive assurance against any unusual violence that might disturb the union. He should not feel disposed, however, to tell a patient to remove an apparatus during the daytime and resume it at night. The question was not what a doctor could do with a reasonable degree of safety, but rather what a patient could be permitted to do without incurring a danger of disaster. He could recall an instance, while he was an interne at Bellevue Hospital, in which he had removed the dressing from a thigh four weeks after a fracture at the middle third. On the morning following the day of the removal the patient had sustained a refracture, and this, too, had occurred without the patient having arisen from the bed, but was due, as he said, to his having turned over or in some way forcibly exerted himself during the night. The fact was the speaker should have kept the dressing on this patient's thigh for at least two weeks longer, which was done in the case of the refracture with complete success. He was sorry that the text-books did not lay down more definite rules as to how long special fractures should be confined in dressings. This omission was, however, not so great a fault as it seemed to the reader of the paper, since the time taken for bone to unite after fracture was pretty well determined, provided all other things were equal. The adoption of hard and fast rules in respect to the length of time would lead to occasional disaster, since each fracture should be largely treated upon an independent basis. He failed to see how any text-book on surgery could successfully formulate special rules, except for special cases. Even then he thought the best results would arise if the fracture was given the benefit of the doubt rather than if it was treated according to the stereotyped statements of text-books.

Dr. S. T. Armstrong said that the treatment of a case of fracture, like that of all other cases of surgery, must be based upon the essential features of the particular case. He did not think that the author of the paper had advocated the use of an anæsthetic for the purpose of simplifying the making of the diagnosis, but had argued that the resulting relaxation would enable the surgeon to make more certain work of the adjustment of the fragments and the application of the dressings. The removal of a fracture dressing permanently after the fourteenth or twenty-first day would, in the opinion of the speaker, lay the surgeon who allowed it open to an action for damages should any accident ensue as the direct or indirect result of the permission or advice.

Dr. von Dönhoff said that he had intended to convey the idea that he would give an anæsthetic for the purpose of adjusting the fragments and of avoiding the struggles of the patient, and not for the mere purpose of making a diagnosis. He held it to be the business of every surgeon to be able to make a diagnosis from a familiarity with the topographical anatomy of the parts involved unless the injury extended into a joint cavity. Still, he thought that examination and adjustment under anæsthesia would allow of quicker and better work with less injury to the parts than was often possible when no anæsthetic was used. He had seen no mishaps from chloroform. The use of an anæsthetic was nothing as constituting an additional feature of gravity in the case, but rather the contrary. As to the gross topography of a fracture, he thought it good practice to study the tissues themselves, to note the amount of swelling and the propriety of interfering with the same surgically; to notice the signs of hæmorrhage about the fracture, and whether operative interference should be employed for its relief; to determine the nature of the vascular lesion, as to whether there was a large bleeding vessel likely to militate against physiological repair. He did not think it good practice to put a fracture up in a permanent dressing and leave it to chance and a prognosis based on the outside appearance of the dressing. There was sure to be a subsidence of the swelling long before adequate union of the fragments, and an ugly deformity might result before the limb was seen. He thought that in the case mentioned by Dr. Bryant there could have been no union at all. Perhaps there had been failure to get the fragments opposed, an accident easily avoided if his method was adopted. Too much care and attention could not be given to the matter of ankylosis, so extremely likely to occur in the course of the prolonged confinement of joints and so tedious and difficult to overcome when once developed. Neither he nor the gentlemen who had contributed to the statistical tables mentioned in his paper had witnessed any secondary accidents while practicing the method he had been advocating.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of October 7, 1890.

The President, Dr. Landon C. Gray, in the Chair.

Tuberculous Meningitis.—Dr. W. B. Pritchard presented the brain of a patient who had died from this cause. When first seen by the speaker, the man had been suffering from obstinate insomnia and headache. A few days subsequently the thermometer had shown some elevation of temperature; but this had never exceeded 103° at any time until shortly before death. The mental disturbances had been very marked from the beginning. There had been complete loss of memory, right-sided ptosis, difficulty and finally loss of speech, and the rapid development of symptoms of complete bulbar paralysis. The apparent immediate cause of death had been the involvement of the vagus. There had been decided right hemiparesis. A very offensive purulent discharge from the nose had been persistent, which had continued until death. The autopsy had revealed over the right parietal bone a cavity of about the size of a silver dime, the necrosis being presumably tuberculous in character. Over the patient's right eye there had been a linear scar with a depressed fracture, but no apparent affection of the brain from this cause. At the base of the brain there was found a thick tenacious material. The medulla, pons, crura, and cranial nerves were involved, and the dura was covered along the convexity of both hemispheres with what were presumed to be masses of tuberculous deposit.

Can we diagnosticate Hyperæmia or Anæmia of the Brain and Cord?—Dr. William A. Hammond, of Washington, read a paper on this subject. The writer had for many years been familiar with a group of symptoms which, from their ætiology and general characteristics, were indicative of cerebral disturbance; and some twenty-five years ago, after considerable observation and many experiments performed upon living animals and the human subject, he had come to the conclusion that they were the result of an increase of the amount of blood circulating in the vessels of the brain. His conclusions were first published in an article on Insomnia in 1865, various papers appearing on the subject at subsequent intervals; and lastly in a monograph, issued in 1884, entitled *Cerebral Hyperæmia the Result of Overmental Work or Emotional Disturbance*, in which additional facts, the outcome of continued experience, were brought forward in support of the theory advanced. In the writer's opinion, there were certain symptoms which positively indicated the existence of cerebral hyperæmia, and which he had designated as symptoms of the first class. There were others which inferentially led to the same conclusion, especially when they were associated with symptoms of the first class. Those were embraced under the term symptoms of the second class. Others, again, were indicative of derangements of various organs of the body, which, though important as adding to the discomfort of the patient, might be due to many different primary pathological states, and therefore were not included in the present discussion. The symptoms of the first class were: first, wakefulness; second, pain, heat, a feeling of fullness or distention in the head, a sensation of a band encircling it, a dragging and clawing sensation at the vertex, vertigo, and hallucinations, provided, and this point was especially impressed, that those symptoms were increased by any known factor which increased the amount of blood in the brain; and, third, a congested condition of the tympanum and the optic disc, the retina, and the chorioid. The theory which the writer had advanced repeatedly was that natural sleep was due to a comparative anæmic condition of the brain, normal wakefulness to an increase of the amount of blood in the cerebral vessels, and insomnia to an abnormal quantity of intracranial blood. Persistent insomnia was the necessary accompaniment of the pathognomonic symptom of the affection in question. Without wakefulness there was no cerebral hyperæmia; with cerebral hyperæmia there was always wakefulness. Numerous experiments made upon animals had fully demonstrated those facts. It was well known that during the process of digestion there was a diminished amount of blood in the brain, and it was for this reason that persons felt sleepy after a hearty meal. Although those observations and experiments were conclusive enough, further demonstration had been made by means of an instrument devised for the purpose of determining the existence of cerebral hyperæmia. By its means observations were made upon the movements of the brain and the blood pressure within the cranium. It consisted of a brass tube, which was screwed into a round hole made in the skull with a trephine. Both ends of this tube were open, but into the upper was screwed another brass tube, the lower end of which was closed by a piece of very thin sheet India rubber, and the upper end with a brass cap, into which was fastened a glass tube. This minor arrangement contained colored water, and to the glass tube a scale was affixed. This second brass tube was screwed into the first till the thin rubber pressed upon the dura mater and the level of the colored water stood at 0, which was in the middle of the scale. Now, when the animal went to sleep, the liquid fell in the tube, showing that the cerebral pressure had been diminished—an event which could only take place in consequence of a reduction in the quantity of blood circulating in the brain. As soon as the animal awoke the liquid rose at once. The experiments were performed upon dogs and rabbits, and in every instance the pressure was lessened during sleep and increased during wakefulness. The writer thought that nothing could exceed the conclusiveness of experiments of this character. Of the second group of symptoms, hallucination, being the most remarkable, was the only one considered. A number of cases were cited from the recorded experience of the writer and other observers. In most of the cases reported the spectre or apparition had appeared to the persons on retiring to rest or inclining forward, and vanished when the erect posture was assumed. The explanation of such cases was very simple. The recumbent posture facilitated the flow of blood to the brain, and at the same time tended, in a measure, to retard its exit. Hence the appearances were due to the resulting congestion. As soon as the individuals rose in bed or stood erect, the reverse condition existed, the congestion disappeared, and the apparitions went with it. Hallucinations of hearing were not infrequently produced by like causes. A number of cases were related to illustrate this point. The writer did not want to be understood as saying that there was a fixed condition of the fundus of the eye and the tympanum which was associated with cerebral hyperæmia; but that observations should be made from day to day in each case, when it would be found that as the other symptoms of cerebral hyperæmia disappeared, the retina, the chorioid, and the tympanum would lose their congested appearance, so that, when health was restored, the fundus of the eye and the drumhead would be found to be very different from what they were when the disease was at its height. There were certain agents which, by their action, appeared to increase the amount of blood in the brain, and others which apparently diminished it, and which were, hence, important in their diagnostic relations. If to a person suffering from insomnia, pain in the head, vertigo, and hallucinations, should be given one or two hundredths of a drop of nitroglycerin, the trouble would become augmented and unbearable. Like effects followed the use at such a time of quinine, strychnine, and other agents. Among those remedies used to diminish the amount of blood in the brain, the bromides stood pre-eminent. Another diagnostic factor was in the action of ergot. As was well known, this substance possessed the property of constricting the organic muscular fiber. The writer was convinced, from personal investigations, that ergot did contract the cerebral vessels, and hence diminished the quantity of intracranial blood. The writer said in conclusion that when he had a patient suffering from insomnia, pain in the head, vertigo, hallucinations, suffusion of the face, cephalic heat, and other striking symptoms of perhaps less special importance, and when he found these symptoms disappear under the influence of remedies such as the bromides, ergot, ice, and douches of cold water to the nape of the neck, cups in the same locality, nasal bloodletting or spontaneous hæmorrhage, position, and other means calculated to diminish the amount of intracranial blood, he did not see how an escape was possible from the conclusion that the patient was suffering from cerebral hyperæmia.

Dr. M. A. Starr said that while he did not wish to be understood as representing those who opposed Dr. Hammond's views, still his convictions at present were those expressed by Dr. Gray in his paper read recently before the society. (See the *Journal* for May 24th, page 561.) The symptoms which had been explained by the existence, or assumed existence, of cerebral hyperæmia were, many of them, symptoms which could be produced by other causes; such, for example, as wakefulness, which was often noticed in individuals when very much exhausted and in puerperal women who had suffered severe hæmorrhage. He had also certainly observed it in patients who were anæmic. Therefore, to say that wakefulness necessarily indicated a hyperæmic brain was to advance a theory which was hardly tenable. Certainly hyperæmia of the brain might, under certain conditions, be diagnosticated, but it was a very open question whether this could be done when only wakefulness was present. As to the question of drugs, they had been very much surprised to hear it stated by Dr. A. H. Smith and Dr. Peabody, at a meeting of the Practitioners' Society last winter, that those gentlemen had been treating cases of supposed hyperæmia of the brain with nitroglycerin and nitrite of amyl. These drugs, which were supposed to increase the supply of blood to the brain, were being given upon the hypothesis that they dilated the entire arterial system of the body, and the brain would thereby be relieved to a certain extent of blood. The reasoning, at least, appeared sound. The speaker thought it impossible to base a diagnosis upon any individual symptom.

Dr. J. Leonard Corning thought this was not scientific reasoning. The truth might probably be more nearly arrived at by careful induction. If a man came complaining of headache, having a congested face, with a pulse of high tension, whose symptoms could be promptly relieved by pressure upon the carotids or the jugulars, or by bandaging the legs, might such a patient be assumed to be suffering from congestion or anæmia of the brain? The speaker thought it was congestion. Suppose quinine or alcohol should be given to such a patient, and it was found that the symptoms were aggravated, it would be certainly concluded that the trouble was congestion.

The President said that of course Dr. Hammond spoke with authority; this they were all prepared to admit. The fact that he was able to do so had much to do with the acceptance of his conclusions without criticism. Still, no dictum in relation to a scientific point could be allowed to stand on personal authority alone. The conclusions must bear the force of investigation and be supported by fact. Dr. Hammond must not consider the discussion as having the least personal bearing, but as merely the expression of a general desire to elucidate the problem as far as possible. Dr. Hammond had stated the symptoms of cerebral congestion as being sleeplessness, with a certain feeling of compression or oppression about the head and a flushing of the face.

Dr. Hammond here suggested that he had said these symptoms were increased by the dependent posture or by anything which would increase the amount of blood in the brain.

The President accepted the correction, and went on to enumerate the conditions in which these symptoms might be found. For instance, insomnia was common enough in mental diseases and worry, melancholia, overwork, constipation, and many conditions in which there was nothing to show that there existed any hyperæmia of the brain. In the early stages of intracranial syphilis there was a condition somewhat of the nature of hyperæmia. But, then, in Bright's disease, in which there were hyperæmia and congestion, there existed a condition of stupor. If the list of causes of insomnia were gone through, it would be possible to find a certain train of symptoms which would lead to the assumption of existing anæmia in some and hyperæmia in others. Experiments had recently been made on the brains of animals, the report of which differed from those of other recorders; as to the point made that the brain rose or increased in volume during the waking period, it was an open question whether this was not due to cellular action producing an increase of bulk. As to the association of sleeplessness with the recumbent posture, of course the extended observations of the author of the paper were deserving of due consideration; but so also were the more limited observations of the speaker in this respect, and he had not been able to verify the association. The question before them was not as to the existence of cerebral hyperæmia or anæmia, but as to whether it could be clinically diagnosticated. Flushed face might be dependent upon chorea, general paresis, or injury to the brain. It was impossible to say whether the symptom was brought on by hyperæmia alone. The feeling of oppression and sense of fullness in the head was found associated with errors of refraction, insufficiency of the ocular muscles, changes of climate, errors of diet, and so forth. To assume that in all those conditions there was hyperæmia of the brain was assuming a good deal and more than could be proved. It was a point which had not been demonstrated by any pathologist, as to whether there could exist by itself an increased amount of blood in the cellular tissue or other finer structures of the brain without causing disease of the surrounding parts. It was strange that Dr. Hammond, after five months' preparation of the subject, had cited no autopsies in confirmation of his theory.

Dr. C. L. Dana said that he thought it was now generally agreed that there was such a condition as cerebral hyperæmia and that it could be recognized in its acute forms. Such a state might be produced by drugs, congestive neuroses, trauma, and so forth. The question had been and was, What was the condition at the base of that functional disorder which had gone by the name of cerebral neurasthenia? whether its initial stage was that of hyperæmia, or the hyperæmia was a secondary process. An acute and a chronic hyperæmia of the brain were conditions admitted to exist, but it was preferable to say functional cerebral neuroses or psychoses where the hyperæmia was a secondary process, and that seemed the inevitable conclusion to those who watched these cases. Many patients among the neurasthenics showed symptoms of congestion of the brain; others of this class did not in any way present the symptoms of the classic type of cerebral hyperæmia, but showed the condition so shaded down that it was necessary to set aside all the symptoms generally described. There was something at the back of the hyperæmia. The hyperæmia of the brain was secondary to some disorder of the vaso-motor nerves or to some functional condition involving the whole nervous system. As to insomnia and cerebral hyperæmia, that question was obsolete. To state that sleep was produced by anæmia and wakefulness by the return of the normal amount of blood to the head was, the speaker thought, in the light of modern neurological studies, a theory which could be described as unworthy of further investigation.

Dr. Hammond thought that his points had been unanswered in the argument. When Dr. Dana said that the neurologists of to-day ignored the theory of the physiological changes during sleep, a theory which the speaker might claim as his own, he thought Dr. Dana in error. He would remind them that he had stated that headache presented innumerable causes for its existence, and it was only when he found it with flushed face and vertigo and when it was increased by the dependent position of the head that the diagnosis was certain. Then he knew his patient had hyperæmia of the brain, all the neurologists in the world to the contrary notwithstanding.

The Sensation of Itching.—This was the title of a paper by Dr. E. B. Bronson. He said that it was a somewhat remarkable fact that a manifestation of cutaneous irritability so common as itching, and one with which as a symptom we were so familiar, had been almost entirely neglected as an independent study. Of other anomalies of sensation—such as hyperæsthesia, anæsthesia, and pain—we had tolerably clear and definite ideas. But what were the cause and nature of pruritus? what was this disturbance of sensation? Notwithstanding the fact that the special senses in their present state were so far removed, in respect to the knowledge they yielded to consciousness, from common sensation, there doubtless had been a period when the distinction did not exist. Their differentiation had been the result of gradual and long-continued processes of evolution. There could be little question that the sensory organs to which the several senses owed their special attributes had all originally developed from simple nerve endings that gave but the vaguest intimations of external objects. In this evolution the impelling force, the directing impulse, had been derived from the two grand principles of life known as the instinct of self-preservation and the instinct of reproduction. To one or the other of those instincts every sensation that arose in the body must be directly or indirectly referred. All sensations, as had been shown, were originally tegumentary. To the common integument must be ascribed the source and potentiality of all sensations. As the result of specialization, most of those sensations had been withdrawn from the exterior. What traces of the special senses thus abstracted still persisted in the skin might be infinitesimal. There still remained to the skin and adjacent mucous orifices a variety of sensations, others more specialized, including a special sense with perceptive faculties, and finally the most important representative of the reproductive instinct, the aphrodisiac sense. The only sense with which the skin was endowed that could be called perceptive and that was worthy of comparison with seeing, hearing, smelling, and tasting was the sense of pselaphia. It included the sense of contact, which was seen in its most primitive form; its most important element was the pressure sense, while the temperature and muscular senses were more or less essential auxiliaries. Common sensation was represented in the integument in its highest positive aspect by the voluptuous sensations, in its lowest negative aspect by pain. Returning to the question, What relation to the sensory organs of the skin and to their sensations did the sensation of itching bear? the author believed that there was sufficient evidence to locate the essential seat of pruritus in the epidermis. Itching was evoked by such irritants as acted upon this tissue much more uniformly than by those that acted on the derma. However provoked, the sensation of itching was always associated with a presentment to consciousness as though a foreign body were in contact with the surface. It was that sensation that experience through many stages of animal life had taught was often followed by a prick or a sting, and the inclination to escape the threatened hurt had grown into an animal instinct. The cause of contact at a minute portion of the sensitive surface was immediately interpreted to mean a miniature attack that must be repelled. If no attack had really been made, but only the threat, then the excitement should disappear without returning the moment the cause producing the sense of contact was withdrawn. But it was this peculiarity of itching that it persisted in spite of such withdrawal, and was only relieved by the act of scratching. It seemed as though the contact, or whatever the change might be that gave rise to the irritation, produced a molecular commotion in the nerves that went on like the jangling of an electric bell, with the continuance of the sensation until such time as the surcharge of nervous energy was released. In pselaphia the nerve force or the molecular vibrations excited by the impact was directly transmuted into some intelligent form of activity, and the accumulation of nerve excitation, the nervous engorgement, did not occur. The circuit was complete with no point of resistance intervening to produce obstruction and commotion. With regard to the effect of scratching in relieving itching, it was analogous to that produced by muscular exertion, as in those animals in which the platysma myoides was more highly developed than in man, as in the horse and bovine genera, a certain relief might be afforded to pruritic sensation through its energetic contractions, and this was not wholly due to expulsion of the insect or whatever else might have caused the sensation. While some of the phases of itching might be associated with pathological changes in the epidermis, others had their source more deeply situated and were referable to the nerve centers. To the latter belonged the form of neurosis of which pruritus was at the same time the symptom and the sole appellation. Still other sources were doubtless to be found associated with apparently normal physiological conditions. While those represented the most obvious sources of itching or provocations for scratching, there was another factor of which hitherto but little account had been taken. Both the English words itch and itching, and the Latin prurio and pruritus, in their secondary significations conveyed the idea of a longing, teasing desire, while pruritus was commonly used by the Latins as a synonym for lasciviousness. By desire, something more was meant than merely the inclination to brush or scratch away a foreign body, of which the sensation was apparently an intimation. It was rather a kind of desire closely akin to a lustful feeling and one that sometimes made scratching veritably a sensual indulgence. When pruritus reached a certain degree of intensity, the subject was not content with that moderate amount of scratching that would ordinarily create a sufficient diversion to give relief, but there was a disposition to attack the itching surface with a vehemence that amounted to a passion. Recognizing this peculiar element of desire in pruritus, the sexual excitement and depraving tendencies that were so commonly associated with pruritus genitalium were most easily explained. But it was not so surprising that voluptuous sensations should attend itching where they had their natural seat; such sensations were, however, not confined to the genitalia. They might be concomitants of itching in almost any situation. By means of a violent excitation induced by severe scratching, provoked by pruritic irritation, a liberation or discharge of nervous energy took place accompanied by pleasurable sensations, together with the relief of the pruritic irritation. A temporary inertia and rest followed and continued until a renewal of the pruritus provoked another resort to the same method of relief. As to why these processes were attended with pleasurable sensations, it sufficed to say it satisfied a law of being. Gratification of appetite was a condition of life, either of the preservation of life or of the reproduction of life. The sexual, the aphrodisiac appetite could only be secondary to the instinct and appetites of self-preservation. From the foregoing considerations the following conclusions were drawn:

1. That there was a sense of contact independent of the sense of pselaphia.

2. That this sense of contact was the sense disturbed in pruritus.

3. That it primarily concerned simple cutaneous nerves or nerve endings situated superficially and probably in the epidermis.

4. That the disturbance in pruritus was of the nature of a dysæsthesia due to accumulated or obstructed nerve excitation with imperfect conduction of the generated force into correlated forms of nervous energy.

5. That scratching relieved itching by directing the excitation into freer channels of sensation—sometimes, especially when severe, substituting for the pruritus either painful or voluptuous sensations.

6. That the voluptuous sensations which might attend pruritus were a manifestation of a generalized aphrodisiac sense, representing a phase of common sensation that had its source in the sense of contact.

Dr. L. D. **Bulkley** considered Dr. Bronson's paper one of the most scholarly he had ever listened to. He then referred to some studies he had made as to the reflex character of itching. For instance, if the itching sensation were on the finger of the right hand, irritation or pinching of that finger would cause a reflex sensation of itching in the neighborhood of the scapula of the same side. He had only found one or two instances in which it was transferred to the opposite side.

Dr. Starr asked whether it was ever thought that itching was a symptom of central nervous disease. Patients with locomotor ataxia were said to be frequently troubled with itching around the anus, scrotum, and perinæum. He had never seen a case confirming this.

Dr. B. Sachs had never seen it in organic nervous disease, but in functional disorders, such as crural neuralgia, he had known the itching to be more obtrusive than the pain. It was a frequent condition of profound anæmia, and often observed in hysterical women and in cases of hystero-epilepsy.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN THEORY AND PRACTICE OF MEDICINE.

Meeting of October 21, 1890.

Dr. Francis Delafield in the Chair.

Purpura Hæmorrhagica.—Dr. G. R. Lockwood read a paper with this title. As ordinarily described, purpura hæmorrhagica, or morbus maculosus, was a disease characterized by spontaneous hæmorrhages, not only appearing subcutaneously, as in simple purpura, but also from the mucous membranes, and more rarely into the serous membranes, internal organs, and joints. This disease was first described by Werlhof in 1775, and was known as Werlhof's disease. The patient usually presented prodromal symptoms, which might precede the actual onset several days or weeks—malaise, chilly sensations, loss of appetite, and possibly a slight rise of temperature being the prodromes most commonly seen. In other cases the disease might begin abruptly. When the disease was fairly developed there was purpura, the spots varying greatly in size, usually upon the extremities, though they might be generally distributed. There were hæmorrhages from various mucous membranes. In some cases there was constitutional disturbance. In such cases the disease lasted from two to four weeks and tended to recovery, though relapses were to be expected. In some cases in children the disease manifested itself by purpura, pain and swelling of the joints, and abdominal pain and tenderness, with tenesmus and bloody stools. It was characteristic of the disease for the patient to suffer from a number of these attacks at short intervals. Letzerich, in a recent monograph, had given the result of bacterial examination of the purpuric spots in a case which he had attended. Long bacilli were found capable of growth in gelatin, the pure cultures of which, injected into the abdomen of rabbits, reproduced the original clinical symptoms in all of twelve cases, and in these the same bacilli were found identical with those of the pure cultures injected. The liver in the rabbits was regularly enlarged and the portal capillaries were almost occluded by an extraordinary growth of the bacilli. Letzerich considered the liver to be the breeding place of the bacilli in Werlhof's disease, the liver being to this disease what the spleen was to malarial fever. If he was correct in this view, it helped explain both the scattering of the lesions, a bacterial embolism of the capillaries, and also the tendency of the disease to relapse, as well as the periodicity of the relapses seen in some cases. A number of cases of varying intensities were then alluded to by the author. When these were considered together, one was struck, he said, by their similarity to the class of acute infectious diseases. The absence of assignable cause, the rapidity of the onset, the multiplicity and the scattering of the lesions, the enlargement of the liver and spleen, and the constitutional symptoms out of proportion to the local lesions found, seemed to prove by analogy the assertion that we were here dealing with an acute infection. Purpura hæmorrhagica was but one of a group of diseases having two essential features in common—tendency to spontaneous hæmorrhages and constitutional symptoms. The family resemblance of those diseases and their relationship to the other hæmorrhagic disorders of this group were then dealt with. In summing up, the points to which discussion was invited were as follows:

(1) Werlhof's disease was probably infectious in origin, the exact agent of infection not having been absolutely proved, though it might be the bacillus described by Letzerich.

(2) There were acute cases of this infection in which death resulted from acute anæmia, from internal hæmorrhage, or from sepsis.

(3) Purpura simplex and purpura rheumatica were probably types of different grades of the same infection, and this infection might be the same as that of Werlhof's disease.

(4) Scurvy, if proved an infectious disease, might be really Werlhof's disease modified by the surroundings and poor condition of the patient, and also by the possibility of the infection being more chronic.

(5) Drug purpura, anæmic and cachectic purpuras, purpuras in exanthemata and other infectious diseases, purpuras in the newly born, in endocarditis and multiple sarcomata, as well as those of neural origin, might present all grades of severity; one could in each determine a cause, though it was not possible to know exactly how the symptoms were produced by this cause, whether by blood changes or vessel changes or from nervous causes, but these purpuras were symptomatic and not essential, and should not be classed with purpura hæmorrhagica or Werlhof's disease until there was more definite information on the subject.

Dr. W. P. Northrup related the histories of two cases of scorbutus occurring in young children. Both children were being nursed by the mother and were in good general condition; there was no evidence of rhachitis about either child. There were hæmorrhages from the various mucous membranes, and also subperiosteal hæmorrhages. From a study of the subject, the speaker was convinced that scurvy was not a disease of malnutrition, but that there was an absence from the blood of some important essential element, which changed condition allowed it to permeate the walls of the blood-vessels.

Dr. L. E. Holt mentioned a case which had occurred in an infant six months old. The child had been nursed by the mother and was well nourished. In this case the first symptom noticed was the development of a suboccipital tumor, spots appearing on the body at a later date. The temperature had at no time risen above 101° to 102° F., and just before death internal hæmorrhages had taken place. The whole course of the disease was such as to lead to the belief that there was acute infection of some sort present. The speaker thought that these cases belonged to the acute infectious class.

Dr. Jackson described an interesting case which had occurred in his practice. The patient, aged thirty-four, a baker by occupation, was enjoying perfect health when hæmorrhage from the bowels came on without any known cause. This continued at intervals for about two weeks, when the patient died from exhaustion. The temperature had gradually risen before death to 102° F. On autopsy, careful examination revealed absolutely nothing which could point to a cause or effect of the hæmorrhage.

Dr. Gibbs's case was that of a young, healthy man, aged twenty-six. The patient was of fine physique, and had never been sick in his life, being always accustomed to outdoor pursuits. After taking a long walk on the sea-shore, he had felt an uncomfortable sensation in his lower limbs, which had amounted almost to pain. On looking at the legs, hæmorrhagic spots were discovered reaching to the knee. In four or five days the pain had become very severe and the spots had extended up over the thighs, covering in a short time the entire body. Twelve hours before death the wrist joints and phalangeal articulations were attacked, these being the only joints involved. The entire skin was covered with the spots, and all the mucous membranes were involved. In the mouth there could be seen black sloughs, which extended as far as a view was possible into the pharynx and nares. There was considerable vomiting of altered blood. The whole course of the disease had terminated in two weeks. Consciousness continued until death, which was caused by exhaustion and collapse. Careful inquiry into the history of this case could elicit nothing which pointed to a cause. But the speaker had been struck by the close resemblance of its symptoms to those of an acute infectious disease.

Dr. Wood gave the history of a case occurring in a pregnant woman. About the fifth month there appeared upon the abdomen some spots which excited considerable anxiety. The previous health of the patient had been good, but there were several cases of malarial infection in the same house, and the unusual condition was attributed to that cause when the patient was first seen. However, under the speaker's observation the purpura had disappeared, and the woman was delivered at full term, the mother and child had both done well and were healthy at the present time.

Dr. Quinn related the history of the case of a young man, aged twenty-one years, in perfect health, who was taken suddenly with hæmorrhage from the bowels. This had recurred periodically every eight days. There was no high temperature during the course of the disease, but just before death the temperature had risen to 101° or 102° F., the patient dying from exhaustion. In this case the most careful inquiry failed to find any assignable cause for the disease.

Dr. A. H. Buckmaster accorded entirely with the views of the author of the paper and with the gentlemen who had preceded him. He related the history of a case of hæmorrhagic small-pox. From his study of hæmorrhagic disorders he was led to believe that purpura could be produced by other causes than infection. He then spoke of the treatment of such cases by ergot, and the good results to be obtained by this drug. He did not think that cases of scorbutus were due to infection, but to blood changes brought about by some faulty supply of necessary material to it.

Dr. A. Jacobi said that sudden hæmorrhage and death must, in almost all cases, be caused by poisons. He had seen this occur from poisoning by phosphorus and chlorate of potassium. These drugs causing a change in the hæmoglobin of the blood, inquiry ought to be made in every case in regard to the possibility of poison being a factor of its cause. He thought that Werlhof's disease was likely to appear more than once in the same patient. While Letzerich had made repeated experiments and had been able to isolate a bacillus and also to reproduce the disease, this was by no means conclusive and had not been confirmed by other observers. The disease might be due to an impoverished condition of the blood-vessels, to infection, or to a bacillus, but, as this had not been proved, it was just as well to accept any broad statements as to the cause with some degree of reserve. The speaker believed in the kinship of all the forms of the disease as grouped by the author of the paper.

Dr. Northrup asked if he might state that recent investigations by two Italian observers, Dr. Giovanni and Dr. Tizzoni, had confirmed the discovery of Letzerich, and that their entire demonstrations were practically identical.

The Chairman thought that the whole trouble lay in the fact of our extreme ignorance on the subject, and that no one knew why the blood-vessels at one time retained their contents and at another time did not. It was a question whether the hæmorrhage was due to a rupture of the blood-vessels or to transudation. The speaker thought that the subject was one that required continued study, and that Dr. Lockwood in thus grouping the cases had done all that could be done at the present time.

Dr. Lockwood, in reply to Dr. Northrup as to the confirmation of Letzerich by other observers, said he had no knowledge of that having taken place. Letzerich explained that the liver was the breeding place of the bacilli, and that from there the system received or was surcharged with the germs, their life ending in the system.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Fifteenth Annual Meeting, held in Buffalo, September 16, 17, and 18, 1890.

The President, Dr. John P. Reynolds, of Boston, in the Chair.

(Concluded from page 502.)

The Comparative Value of the Biniodide and the Bichloride of Mercury as Surgical Antiseptics.—Dr. Charles Jewett, of Brooklyn, read a paper on this subject, in which he stated that biniodide of mercury was less toxic than the bichloride; if used in proper concentration, it was as potent as a germicide; it was a more stable chemical compound; it was more agreeable to the operator. Experiments made at the Hoagland Laboratory gave the following conclusions:

1. In equal concentration, the biniodide was slightly inferior to the bichloride in germicidal power. 2. For equal potency as a sterilizing agent, the biniodide should be used in greater concentration than the bichloride—say 1 to 1,800. 3. The difference in the efficacy of a 1-to-2,000 solution of bichloride and a 1-to-1,000 solution was insignificant. 4. The activity of a 1-to-2,000 solution of biniodide was materially greater than that of a 1-to-4,000 solution. Alcohol should be used before the sterilizing solution for its hygroscopic action.

Tait's Flap-splitting Operation.—Dr. Horace T. Hanks, of New York, read a report of his recent experiences in the use of the flap-splitting method of Tait. He presented the histories of five successive cases in which the results were perfect. He said that Tait's operation, which had been frequently described, was the best, the most simple, and the most easily performed. He insisted that one prominent and necessary detail to secure perfect results was keeping the bowels loose from the second to the tenth day after the operation.

Dr. E. C. Dudley, of Chicago, had performed Tait's operation formerly, and had always succeeded in getting union, but had since discarded it, as it did not sufficiently bring together the torn parts—not being a restorative operation. He believed the condition of a lacerated perinæum through the sphincter indicated simply an operation which would restore the parts to the condition they were in before the tear occurred. The first step was to bring together the lowest carunculæ myrtiformes with two tenacula, when the direction of the original rent and cicatrix could be made out. The perineal body was then restored by the method suggested by Emmet. In thirty-six to forty-eight hours a cathartic was given, and before the movement an enema of warm water, and the bowels were kept open until union was complete.

Laparotomy for Intrapelvic Pain.—Dr. Thomas A. Ashby, of Baltimore, in a paper with this title, said that intrapelvic pain was associated with many intrapelvic conditions, but was not always in proportionate severity to the disease. Besides the pain which pointed to structural lesions, there were chronic ovarian neuralgias, which, before the menopause, resisted treatment. It was for this class of cases in particular that laparotomy was advised. Operation was also essential in cases in which a diagnosis could not be clearly made, and pain was severe.

Dr. Kelly, of Baltimore, eliminating personalities, would strongly condemn the practice of performing laparotomy for pain, notwithstanding that in some cases it afforded the most typical relief. He believed oophoralgia was rarely heard of, the condition which characterized it generally arising from some other disease of the organ. The admission of laparotomy for this condition would lead to the practice of seven or eight years ago, when laparotomy was performed for every known disease. These ovarian troubles could always be diagnosticated by bimanual palpation or combined rectal and vaginal examination in anæsthesia. The uterus could be brought down to the vaginal outlet with the tenaculum, when the ovaries could be easily reached. If extensive adhesions existed, the uterus might be brought down into retroposition, and rectal examination would disclose the ovary, a little, characteristic, almond-shaped body. If it was not found in this way, the utero-ovarian ligament might be looked for running out to the right or left of the uterus. When this was found, by pushing it up it was easy to ascertain whether the ovary was adherent or not. Radical measures should not be resorted to until all other forms of treatment were exhausted.

Dr. A. Palmer Dudley, of New York, was in favor of laparotomy for the relief of the conditions which produced pain, after all other methods of treatment had failed. He believed it was impossible to diagnosticate certain diseased conditions of the ovary by bimanual touch, and that laparotomy was the only proper procedure in such cases. Vascular disturbance was the foundation of the majority of pelvic diseases in women. There were no valves to the ovarian veins from the ovary up to the renal vein, and they were pressed upon by the sigmoid flexure of the colon and the transverse circulation of the kidney, sometimes causing what might be considered a varicocele.

Dr. Polk, of New York, understood Dr. Ashby to refer simply to an exploratory incision in these cases, and in that sense he thought he was entirely right. He did not believe it was possible in all cases to make out the diseased conditions of the ovaries by rectal or vaginal touch.

Dr. Henry T. Byford, of Chicago, believed that laparotomy should not be resorted to for the cure of pain that could be cured otherwise.

Dr. Matthew D. Mann, of Buffalo, did not believe that a diagnosis was possible in all cases before the abdomen was opened. He believed in the exploratory incision as a means of diagnosis. He doubted whether minute disease of the ovary could be recognized by a simple incision of the organ, and was inclined to believe that the whole organ ought to be removed. He was confident that in a number of cases the ovaries and tubes had been removed when the trouble was entirely in the ureters.

Officers for the Ensuing Year.—The following were elected: President, Dr. A. Reeves Jackson, of Chicago; Vice-Presidents, Dr. Joseph Taber Johnson, of Washington, and Dr. William H. Baker, of Boston; Secretary, Dr. Henry C. Coe, of New York; Treasurer, Dr. M. D. Mann, of Buffalo; Members of the Council, Dr. H. P. C. Wilson, of Baltimore; Dr. W. H. Polk, of New York; Dr. E. C. Dudley, of Chicago; and Dr. F. H. Davenport, of Boston.

The society adjourned, to meet in Washington, the third Tuesday in September, 1891, to take part in the proceedings of the Congress of Amercan Physicians and Surgeons.

Book Notices.

The Throat and Nose and their Diseases. With One Hundred and Twenty Illustrations in Color, and Two Hundred and Thirty-five Engravings, designed and executed by the Author. By Lennox Browne, F. R. C. S. E., Senior Surgeon to the Central London Throat and Ear Hospital, etc. Third Edition, revised and enlarged. Philadelphia: Lea Brothers & Co., 1890. Pp. xxii-716. [Price, $6.50.]

Certainly a foreign medical work is worthy of appreciative consideration that so fairly says: "From no quarter have we derived, in these latter days, so many original observations and suggestions of real practical value as from the members of the American Laryngological Association." But, aside from this pleasant compliment, the rich experience of the twelve years that have passed since the first edition of this work appeared has been incorporated in this edition, making the book one of the most valuable works on diseases of the throat in the English language.

Materially, the volume has been expanded to double its original size, the author's beautiful plates have been added to, and the other illustrations have been tripled; by these latter means the practical teaching value of the work has been increased, familiarizing the reader with the appearance of the various pathological conditions that may be found. It is regrettable that the American publishers have not arranged the plates as the author intended, so that they could be opened out "beside the book during perusal of the text descriptive of the disease pictorially illustrated."

The author's former uncertainty regarding the value of intubation of the larynx has been dissipated, and he finds the tubes very serviceable. The chapters on the nose and nasopharynx, while brief, are sufficiently comprehensive.

The work is still worthy of the commendation that it first received.

A Treatise on Diseases of the Nose and its Accessory Cavities. By Greville Macdonald, M. D. (Lond.), Physician to the Hospital for Diseases of the Throat. London and New York: Macmillan & Co., 1890. Pp. xvi-362. [Price, $3.]

The author has made extensive studies and experiments on the physics and pathology of the nose, quite a full chapter being devoted to the elucidation of his theories on this subject. The chapter on nasal reflexes and hay fever is a historical review of what has been said and written on this much-discussed question, the author defining the disease as that of paroxysmal sneezing. He believes that a name for a disease should always keep clear of a theory, and that, as a designation, a constant symptom is preferable to a varying cause. The remainder of the work is made up of chapters on the usual subdivisions of diseases peculiar to the nasal cavities. The book shows the author's ability to make sound deductions from a ripe experience, and proves that he is not at all afraid of saying what he thinks. The work is fairly illustrated.

BOOKS AND PAMPHLETS RECEIVED.

Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital, etc. Fourth American from the Fifth English Edition. With a Chapter on Examination for Color-perception. By William Thomson, M. D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1890. Pp. xx-25 to 508. [Price, $2.]

A Practical Treatise on Impotence, Sterility, and Allied Diseases of the Male Sexual Organs. By Samuel W. Gross, A. M., M. D., LL. D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Fourth Edition, revised by F. R. Sturgis, M. D. Philadelphia: Lea Brothers & Co., 1890. Pp. vii-16 to 173. [Price, $1.50.]

Text-book of Materia Medica for Nurses. Compiled by Lavinia L. Dock, Graduate of Bellevue Training School for Nurses, etc. New York: G. P. Putnam's Sons, 1890. Pp. 201.

A Case of Brain Tumor (Angeioma Cavernosum) causing Spastic Paralysis and Attacks of Tonic Spasms; Operation. By L. Bremer, M. D., and N. B. Carson, M. D., of St. Louis, Mo. [Reprinted from the *American Journal of the Medical Sciences.*]

A Study of the Anæsthesias of Hysteria. By Charles L. Dana, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

Lateral Deviation of the Spine as a Diagnostic Symptom of Pott's Disease. By Robert W. Lovett, M. D., Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

The Production of Immunity with the Chemical Substances formed during the Growth of the Bacillus of Hog Cholera. By E. A. v. Schweinitz, Ph. D., Washington, D. C. [Reprinted from the *Medical News.*]

Three Types of Cerebral Syphilis producing Mental Disease. By C. M. Hay, M. D., Morris Plains, N. J. [Reprinted from the *Medical News.*]

Suppurating Endothelioma; Myofibroma in a Condition of Necrobiosis; Remarks on the Treatment of the Pedicle, etc. By Mary A. Dixon Jones, M. D. [Reprinted from the *Medical Record.*]

The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity. By A. B. Judson, M. D., New York. [Reprinted from the *Transactions of the Medical Society of the State of New York.*]

Remarks upon Empyema. By Mary Putnam Jacobi, M. D., of New York. [Reprinted from the *Medical News.*]

The Treatment for the Radical Cure of Polypi of the Nose. By E. Harrison Griffin, M. D. [Reprinted from the *Medical Record.*]

Lymphoid Hypertrophy in the Pharyngeal Vault. By Jonathan Wright, M. D., of Brooklyn. [Reprinted from the *Journal of the American Medical Association.*]

Prognosis in Pulmonary Tuberculosis, based upon an Analysis of Five Hundred and Fifteen Cases. By Karl von Ruck, B. S., M. D. [Reprinted from the *Medical News.*]

Medical Aspects of Mental Discipline. Semi-Centennial Introductory Address of the Medical Department of the University of the City of New York. By W. H. Thomson, M. D., LL. D.

The Cæsarean Operation, with the Report of a Case. By A. Palmer Dudley, M. D. [Reprinted from the *American Journal of Obstetrics and Diseases of Women and Chiudren.*]

I. The Prevention of the Short Leg of Hip Disease. II. The After-treatment of Hip Disease. By A. B. Judson, M. D., New York. [Reprinted from the *Transactions of the American Orthopædic Association.*]

A Case of Obscure Disease of the Bladder treated by Suprapubic Cystotomy and Prolonged Drainage. By L. Bolton Bangs, M. D. [Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases.*]

Is there a Fundamental Difference between the Contraction of the Heart and Ordinary Striated Muscle? By Thomas J. Mays, M. D., Philadelphia. [Reprinted from the *Transactions of the College of Physicians of Philadelphia.*]

Miscellany.

The International Congress of Hygiene and Demography.—Dr. John S. Billings, of the international permanent committee, has issued the following circular, dated October 27, 1890: I am requested by the honorary secretaries of the committee of organization of the Seventh International Congress of Hygiene and Demography to call attention to the fact that this congress will be held in London during the week beginning August 10, 1891. The governments of all countries and municipalities and all public-health authorities, universities, colleges, and societies occupied in the study of the sciences more or less immediately connected with hygiene, are invited to co-operate and appoint delegates to represent them at the congress. The Prince of Wales will preside. A committee of organization has been formed, of which Sir Douglas Galton is chairman and Professor W. A. Corfield and Mr. Shirley F. Murphy are honorary secretaries. An exhibition of articles of hygienic interest will be held in connection with the congress. The last of these congresses was held in Vienna in 1887, and was attended by over two thousand persons, and it is expected that the London meeting will be one of great magnitude and importance.

Phenacetin in Typhoid Fever.—"Phenacetin has been used with great success by Dr. Sommer in the treatment of typhoid fever, thus confirming the favorable views of its action which have been expressed by Masius and others. The dose employed for adults was four grains, which was repeated from two to four times during the twenty-four hours. Children were given only half this dose. No less than sixty cases were treated in this way with but one fatal case, after which it is noted that the patient was not subjected to phenacetin treatment until three weeks from the commencement of the attack. In no case were there any serious complications."—*British and Colonial Druggist.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interes to our readers will be considered as doing them and us a favor, and if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

SOME REMARKS ON MY HYPOTHESIS OF THE SELF-REGULATION OF RESPIRATION, AND DR. COWL'S DISCUSSION OF IT.

By S. J. MELTZER, M. D.

In No. 614 of this Journal, for September 6, 1890, Dr. W. Y. Cowl published an article entitled The Factors of the Respiratory Rhythm and the Regulation of Respiration. In this paper the author criticises adversely my theory of the self-regulation of respiration, upon which criticism I wish to make the following remarks:

In my article [*] on Self-regulation of Respiration I mentioned the experience I had had while stimulating the vagi with strong electrical currents. During the stimulation the respiration was arrested in the expiratory phase, the inspiratory muscles being relaxed; but after interrupting the current, the arrest changed into an inspiratory phase, a tetanic contraction of the diaphragm. H. Head [†] reports a similar experience which he had had with prolonged insufflation of the lungs; after cessation of the insufflation, the expiratory standstill changes into an inspiratory tetanus. This phenomenon is termed by Head "negative after-effect." Dr. Cowl asks for evidence to show that this inspiratory after-effect is not dyspnœa from non-aeration of the blood coursing through the respiratory center during the preceding expiratory standstill. This is the evidence I am able to furnish:

1. The intensity and duration of the inspiratory tetanus are proportionally increased with the intensity of the stimulation, and not with its duration, or with that of the expiratory standstill. This shows clearly that the inspiratory tetanus is a primary effect of the stimulation, and not a secondary result from dyspnœa.

2. Dyspnœa from the arrest of breathing in the expiratory phase never effects an inspiratory standstill. If an expiratory standstill is brought about by the stimulation of the superior laryngeal nerve, no inspiratory tetanus is ever observed to follow such a standstill. Furthermore, an expiratory standstill can be effected in some rabbits by stimulating the vagus trunk itself with moderate electrical currents; but here the expiratory effect rather outlasts the stimulation, with no inspiratory after-effect, no matter how long the standstill has lasted.

Dr. Cowl further objects to the inference I am supposed to have drawn from my experiments on the trunk of the nerve, that the lungs themselves are likewise provided with inspiratory nerve fibers, and that these fibers exercise their function in ordinary breathing. On this point Dr. Cowl is mistaken: I did not draw any such conclusion from my experiments. The logical connection between my experiments and my hypothesis is as follows:

My experiments put me in a position to confirm the hypothesis that the vagus trunk contains two kinds of respiratory afferent nerves, which are antagonistic to each other in a manner resembling that of the antagonistic nerves of the heart-beat—*i. e.*, that it contains one kind of nerves which inhibit the inspiration, and another kind which incite and augment it. I could further demonstrate the parallelism between these nerve fibers and the cardiac nerves in some particulars. For instance, the stimulation of the inhibitors of inspiration has only a short after-effect, as is the case with the inhibitory nerves of the heart, while the inspiratory nerves show a long after-effect, similar to the known long after-effect of the nervus accelerans cordis. Further, when both cardiac nerves, vagus and accelerator, are stimulated at the same time, we see during the stimulation the inhibitory effects alone influencing the heart-beat, and this is the case also with the respiratory nerves; strong stimulation of the vagus trunk produces constantly merely inhibition of inspiration — expiratory standstill. Now, if, after cessation of the simultaneous stimulation of the cardiac nerves, the long after-effect of the accelerating nerve appears fully developed, we should expect that a similar phenomenon might occur after the simultaneous stimulation of the respiratory nerves. In fact, after interrupting the strong current, I have observed that the expiratory standstill soon changed to an inspiratory tetanus; and what could this mean but that the expected phenomenon had occurred—*i. e.*, that the inspiratory nerves had been likewise stimulated, that their impulses had been concealed but not destroyed, and that, therefore, after the short expiratory after-effect died out, the long inspiratory after-effect appeared unrestrained and produced the inspiratory tetanus? Thus, as I believe, I gave a satisfactory explanation of the phenomenon of the negative after-effect in my experiments on the vagus trunk; but with this the direct conclusion from my experiments ends. As regards Head's "negative after-effect" after long insufflation of the lungs, I have, of course, applied to it the same explanation which I have given of the similar phenomenon in my experiments. The question: Are the lungs provided with both kinds of nerves as they are found in the vagus trunk? I did not discuss at all. On this point I simply took the same view which Head himself holds, and which is shared by such eminent physiologists as Hering and many others.[*]

What I added is this: If the lungs are provided with two sets of nerves as they are found in the vagus trunk, which I have no reason to deny, then the same relations ought to prevail between the nerves of the lungs that are found in the vagus trunk, and consequently the negative after-effect following insufflation of the lungs may have the same meaning as that given to the similar phenomenon in the experiments with the trunk. I hold the same position in my hypothesis. I accepted the premises as given by Hering and Breuer, that the lungs are provided with two kinds of nerves, both of which are taking part in the reflex mechanism of the respiration; but, while Hering and Breuer assume that nerves of one kind are stimulated by expansion, and those of the other by the collapse of the lungs, I am of opinion that it is far more rational to assume that both kinds of nerves are always stimulated simultaneously by the same stimulus—the expansion of the lungs—and that the sequence of expiration and inspiration is due to the peculiar mutual relations of the antagonistic nerves (relations which are known to exist in the antagonistic system of the cardiac nerves and which have been found to exist among the antagonistic respiratory nerve fibers of the vagus trunk). In other words, when both kinds of nerves are stimulated simultaneously, the inhibitory effect prevails during the stimulation, but after its cessation the long inspiratory after-effect comes into play.

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[*] The *New York Medical Journal* for January 18, 1890.

[†] Head, On the Regulation of Respiration, *Journal of Physiology*, vol. x, 1889.

[*] I may quote here an acknowledged authority, Foster, who says, in the latest (5th) edition of his standard text-book, p. 595: "And, assuming on the strength of analogy the existence in the vagus of two sets of fibers, we may say that expansion stimulates the endings of the fibers which inhibit inspiration and concurrently tend to augment expiration, while collapse stimulates the fibers which inhibit expiration and augment inspiration."

It is obvious that whoever undertakes to criticise my theory of self-regulation, whether adversely or favorably, is bound to discuss my share in it—*i. e.*, the tenableness of the application of the relations existing between the cardiac nerves to the antagonism of the respiratory nerves. I am sorry that Dr. Cowl has not even touched this point, and yet he says sharply that my new theory of respiratory rhythm deserves further attention, "chiefly because of a disregard therein of a mass of facts that show a central origin for inspiration." As I have to share this reproach with quite a number of physiological writers, it will be easier to bear it. There are some very prominent physiologists who consider it a disregard of facts to maintain that the inhibition of the inspiration is not of a central origin, still on this point I have the pleasure to be on the same side with my critic, who declares himself to be in favor of Gad's theory of respiration. But let us see the "mass of facts" which, according to Dr. Cowl, I (with many others) have disregarded. Two points are enumerated against my theory in Dr. Cowl's paper—the relation of the blood to respiration, and Gad's experiment upon which his theory of respiration is based. Concerning the first point, Dr. Cowl cites a number of authors who have experimentally demonstrated the high sensitiveness of the respiratory center to changes of the constituents of the blood. While I admit the perfect correctness of these facts, I do not see how they could affect my theory. Does Dr. Cowl know of any experiment which shows that the blood, and that alone, is the exciting cause of respiration? On the contrary, there are authors who, while not denying the influence of the blood on respiration, do not consider the blood a necessary factor for the continuance of respiration. A. W. Volkmann* observed the continuance of respiration in a kitten forty minutes after excluding the circulation, and M. Marckwald† puts it up as a thesis (the 17th) that the normal excitation of the respiratory center is independent of the incentives of the blood. As to myself, I am not a party to either side in this question, at least so far as my hypothesis is concerned, the necessary premise to my theory being only the generally admitted assumption that the afferent nerves coming from the lungs normally affect the respiration; and I attempted to establish a hypothesis on the mode of their peripheral stimulations, leaving it an open question whether there were indeed any other causes for the respiration besides the reflex acts. But, aside from my hypothesis, I may say this: In all the discussions on the subject in question I miss the distinction between the significance of the blood as a *cause* and only as a favorable *condition* of respiration —a distinction which is sharply made in the relation of the blood to the heart-beat. There was a time when some physiologists—Haller, for instance—entertained the opinion that the venous blood was the cause of the rhythmic motion of the heart, and although in our days the importance of the blood and its constituents for the heart-beat has been studied and demonstrated (by C. Ludwig, H. Kronecker, and their pupils), at all events more convincingly than in the experiments on the respiration, still at present the opinion is generally accepted that the blood is significant in the contraction of the heart only as an important condition and not as a cause. I do not mean to say that this view should be adopted also in the doctrine of the respiratory mechanism, in which I admit the possibility that the blood, and more especially its carbonic-acid gas, may be one of the causes of the respiratory movements, but I wish to point out that such an assumption should not be made without good proof, the more so because the blood is of importance to the integrity and function of every organ in the body. This fact seems to demonstrate the value of the blood as a general nutritive rather than as a common stimulus for manifold different functions.

Concerning the experiments of Gad, Dr. Cowl says that they involve facts which are acknowledged to show the pulmonic incitation of inspiration. Gad observed that after dividing the vagi without stimulating them (Gad's freezing method) the inspirations become more predominant. This certainly shows that an inhibitory tonus is removed by cutting the vagi. Gad goes still further. He concludes that the vagi contain only inhibitory nerves, and that inspiration is of central origin exclusively. But this part of Gad's conclusions consists of mere admissible assumptions, not necessarily inferences following from his experiments. I could even use the experiment cited as a proof of my theory thus: On stimulating the inspiratory and inhibitory nerves simultaneously, the inhibitory effect prevails; consequently if there is any tonus from the nerves of the lungs it must be of an inhibitory nature; therefore we see a certain inhibitory influence disappearing after dividing the vagi. My explanation of the said experiment finds a perfect analogy in the cardiac nerves of the frog. According to some authors,* the frequency of the heart-beat is increased after division of the vagi. Should we with Gad conclude that the vagi contain only inhibitory nerves? We know now* that the vagi of the frog contain also augmenting nerve fibers. Every one explains the said increase by the well-established fact that the inhibitory tonus is the predominating one, just as I would explain the increase of the inspiration after dividing the vagi. But even leaving aside my explanation, why must it follow that the inspiration is of a central origin? We could assume, for instance, that the inspirations and expirations were generated in the respiratory center only by reflex acts from the lungs and from all other parts of the body; but while in the reflexes from the lungs the impulses for expiration are at least not overshadowed by the inspiratory impulses, the latter are predominating in the reflexes from the other parts of the body, or at least in some of them; therefore the predominance of the inspiration after cutting the vagi. I do not mean to defend this theory as my own; I merely wish to demonstrate that Gad's experiments admit of many other explanations than the one given by him; and Dr. Cowl certainly goes too far in considering the experiment in question as a fact against the assumption that the lungs are provided with inspiratory nerves. On the other hand, if we have no sure proof that inspiratory fibers are absent in the lungs, we may assume, with some degree of probability, that such nerves exist there in view of the positive fact that inspiratory nerve fibers are contained in the trunk of the vagus. For what other purpose could these inspiratory nerves be contained in the trunk? As to the expiratory nerves, we might believe that they were for the act of vomiting; but of what use could the inspiratory nerves be if not to supply the lungs?

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* A. W. Volkmann, Ueber die Bewegung des Athmens. Müller's *Archiv*, 1841.

† Max Marckwald, Die Athembewegung und deren Innervation beim Kaninchen. *Zeitschrift für Biologie*, 1886, pp. 1–120.

* Funke, Bidder, Rosenthal, and others. See Hermann's *Handbuch d. Physiol.*, Bd. iv, 1. Theil, p. 378.

The main objection to an exclusive reflex theory of respiration is that it ignores the fact that respiration continues after the division of the vagi. This objection has not yet been seriously discussed even by adherents of this theory. Though my own position is not affected by this objection, since my hypothesis does not necessarily exclude other factors for the regulation of respiration, I should like to introduce here briefly some points bearing upon the discussion of the above-mentioned objection. As I pointed out before, there are, besides the reflex from the lungs, many others from nearly all parts of the body, which exert an inspiratory as well as an expiratory influence on the respiratory center. No one denies that fact. Consequently, a vast source of respiratory impulses remains even after excluding the reflexes from the lungs. But while this latter reflex furnishes, in the expansion and collapse of the lungs, an explanatory factor for the alternation of inspiration and expiration, we lack a similar factor in the other respiratory reflexes from which we may expect that the impulses for inspiration and expiration are generated simultaneously. The question, therefore, is not as to where the impulses for respiration arise after the division of the vagi, but as to *what is the source of the alternation* of the respiratory movements? To this we could perhaps answer that the remainder of the reflexes might also possess certain qualitative differences between the inspiratory and expiratory afferent nerves, which could be construed in some way or other as explanatory factors for the continuance of the alternate breathing after dividing the vagi. For instance, smaller degrees of stimulation excite the inspiratory and stronger degrees the expiratory nerves (Langendorff*); or the inspiratory nerves become exhausted earlier than the expiratory nerves (Burkart†); and there are many other ways which still remain to be studied.

But I do not intend to follow out these vague speculations any further. I rather wish to bring forward another reflection which, it seems to me, deserves serious consideration. I mean the introduction into our discussion of the factors of *repetition* and *inheritance.* Suppose the respiratory center were not automatic and received impulses to its working by reflex channels from the whole body, especially from the lungs. The impulses coming from all parts of the body are uninterruptedly simultaneous for inspiration and expiration; but the reflexes from the lungs, by virtue of the steady sequence of the expansion and collapse of this organ, are not simultaneous, but alternately inspiratory and expiratory. May we not expect that such a center, after being life-long influenced by steadily acting reflexes to a prompt alternate working, will acquire, first, a high degree of sensitiveness so as to respond promptly and specifically to the smallest stimuli from whatever quarter they may come; second, a tendency to respond alternately with inspirations and expirations, even on simultaneously received impulses? (This would be the case still more if there were any qualitative differences between the two kinds of afferent nerves tending to their alternate working.) We may expect, furthermore, that such acquired qualities of the respiratory center would be transmitted to the descendants, and that in the course of many generations, by the prompt repetition during the whole life of each generation and by transmission from generation to generation, all the newly acquired fineness and promptness of the qualities mentioned ought to constitute an inseparable part of the respiratory center. In this sense we may speak of an automatism of the center. But we should understand clearly that the center itself does not generate impulses; the impulses are always transmitted by some reflex from a peripheral point; the center supplies merely the high sensitiveness and the readiness to respond alternately to simultaneous excitation by inspiration and expiration. Now, we may try to answer the above-mentioned objection to the pure reflex theory of respiration in the following way: The impulses for inspiration and expiration are normally transmitted to the respiratory center by reflexes from all parts of the body; the alternation of inspiration and expiration is normally induced and maintained by the sequence of expansion and collapse of the lungs. But, by virtue of repetition and inheritance, the respiratory center possesses an automatic readiness to respond with alternation to simultaneous reflexes for inspiration and expiration which enables the center to continue a rhythmic breathing, even after exclusion of the main factor for the rhythmic respiration—the lungs.

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* R. Heidenhain, Untersuchung über den Einfluss des Nv. Vagus auf die Herzthätigkeit. Pflüger's *Archiv f. d. ges. Physiologie*, 1882.

* S. Rosenthal, Hermann's *Handb. d. Physiol.*, Bd. iv, 2. Theil, p. 252.

† Burkart, Pflüger's *Archiv f. d. ges. Physiol.*, Bd. xvi, p. 427.

In conclusion, I wish to add that I am glad to be in full accord with Dr. Cowl in the high appreciation of the invaluable services rendered to the physiology of respiration by Professor Gad, whose investigations served me partly as a basis for my hypothesis; but this latter should be judged on its own merit or demerit, and not by the fact that it differs from the opinion of acknowledged authorities.

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CHILDBED FEVER.*

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Though childbed fever is a disease nearly as old as the human race, nothing was known of its ætiology till 1846. At that time the mortality of childbirth had increased to fifteen per cent. in the large lying-in hospitals of Vienna, a fact so appalling that Semmelweiss, an assistant physician, was induced to study into its cause and to seek a means for its prevention.

Coming into authority in 1847, he had all physicians and students who attended his wards wash their hands with chlorine water before they were allowed to make a vaginal examination, and by this simple means he reduced the mortality in his special wards in one year from 12·24 per cent. to 1·27 per cent. The results obtained at the present day are far better even than these.

In the summer of 1888 I visited the lying-in hospital at Dresden, and was informed that of the last fifteen hundred women confined not one had died of childbed fever, unless the disease had been contracted before her removal to the hospital, and, moreover, there had not been a single case of ophthalmia neonatorum among the infants.

In recent years the stimulus that has been given to bacteriological research has given us an insight not only into the proper treatment for childbed fever, but also into the agents producing the disease. Without entering into a lengthy discussion of the subject, it is sufficient to state that the *Streptococcus pyogenes* is the cause of all forms of puerperal fever.

Vidal found that, though there were various kinds of microbes in the uterine cavity after parturition, it was only the streptococcus that penetrated its walls, and this occurred only where a lesion of its surface existed. He also found the streptococcus in the pyæmic abscesses of the disease, in the endothelium of the veins in phlegmasia alba dolens, and in the peritoneal cavity in those cases of childbed fever where peritonitis existed. Fränkel did not find the streptococcus in those cases of puerperal peritonitis where a fatal termination had not been reached early in the disease, and he maintains that this was due to the migration of other microbes from the intestines into the peritoneal cavity. These strange microbes either destroy the streptococcus or so modify it that it is very difficult to cultivate and study it outside of the body. The streptococcus has been found by Zweifel in mammary abscesses, and it is now generally admitted that it is also the cause of erysipelas.

If, then, the agent is the same in every case, it seems strange that it is capable of producing such dissimilar results. Let us remember, however, that these germs may possess a different degree of virulence; they may enter the system in small or large numbers, or their point of entrance may affect the result by offering a nidus more or less suitable for their growth and multiplication.

They may also be affected by the presence of other microbes, as Professor Bouchard has shown that two nonpathogenic germs may become pathogenic when they enter the system simultaneously. The *Bacillus prodigiosus* and the microphyte of *charbon symptomatique*, each harmless in itself to the rabbit, will produce a fatal result if introduced into the system at the same time.

Sapræmia, a species of childbed fever, may be produced by the absorption of the products excreted by the microbes without the entrance of the microbes into the system. Mr. Hankin, an Englishman who has been studying the poisons of some of these microbes, finds that the anthrax bacillus owes its ability to live in the body to the excretion of a slowly formed albumose which destroys the germ-resisting power of the body. Strong solutions of this albumose are poisonous, but by using attenuated solutions the body becomes accustomed to it and the bacillus dies. Recently many careful investigations have been made into the germicidal properties of the blood. Chief among these are those of Buchner, Nissen, Foder, Metschnikoff, and Lubarsch, of Europe, and Nutall and Prudden of America.

The results arrived at are, that fresh blood serum at the normal temperature is deadly to the microbes of cholera, anthrax, and typhoid fever, but is less fatal to the streptococcus. Ascitic and hydrocele fluids possess the same power, but this power decreases as the temperature is raised, and it is finally lost when it reaches 121° F.

Formerly great pains were taken in drawing the line between autogenetic and heterogenetic puerperal fever, but since the disease has been more carefully studied we see that it is impossible for it to occur unless the germs are present, and Hegar justly rejects the theory of self-infection entirely. He shows that in Baden the mortality from child-bearing has remained about the same for the last forty years. Though the mortality among those attended by physicians has greatly decreased, it has increased in those attended by midwives. This fact he ascribes to their practice of injecting carelessly a three-per-cent. solution of carbolic acid, and thus introducing germs into the genital tract.

All germs, then, are from without, but they need not necessarily be carried by the physician. They may be already in contact with the genitals and only waiting for a suitable occasion to enter the system, or they may find a suitable nidus in the decomposing lochia, and thus find a way into the genital tract.

Professor Kehrer has made an excellent classification of all cases of childbed fever. He recognizes three groups:

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* Read before the Lackawanna County Medical Society, October 14, 1890.

(1) pyæmic, (2) septic, and (3) putrid endometritic. This last corresponds to the sapræmic of some authors. During the last year it has been my fortune to meet with six cases of childbed fever. Four of the patients had been attended by midwives; and of these four, three died, the only one that recovered being one with sapræmia. The two others were attended by physicians—one by myself, a patient with sapræmia, who recovered; the other had septicæmia and died in the hands of a brother practitioner. The brief notes of the three following cases are presented to show imperfect types of the three groups as laid down by Kehrer:

Case I. *Pyæmic Variety.*—Mrs. D. J., a delicate Welsh woman, twenty-six years of age, was delivered, by a midwife, of her third child on April 30, 1890. On May 7th I was called in to treat her for "chills and fever," from which she had suffered since May 3d. These chills had been very severe, occurring once or twice every day, and been followed by profuse sweats. The morning pulse was 136 and the temperature was 103° F., while the whole abdomen was sensitive and tympanitic. Vaginal examination revealed an enlarged and tender uterus, to the front and right of which was situated a firm, immovable mass. Her bowels were somewhat loose and there was slight jaundice of the skin and sclerotics. The treatment adopted was with turpentine stupes and hot poultices to the abdomen, frequent and copious vaginal irrigations of hot antiseptic solutions, and internal remedies. Quinine and antipyrine were given to reduce the temperature, while brandy and caffeine were administered to stimulate the action of the heart. With these, all of the nourishing food was given that the patient could be induced to take.

With an occasional chill, her condition gradually improved, so that on May 17th her temperature had fallen to 99·5° F. I prescribed tonics and did not see her again for several days. On the 19th she had another severe chill, with an elevation of temperature to 104° F., which was reduced to normal with quinine, antipyrine, and caffeine.

She felt so well on the 20th that I was requested to cease my visits, but I was called again on the 25th, and found a case of phlegmasia alba dolens dextra. The nourishment and stimulants were continued, and soothing liniments were applied to the limb while it was enveloped in cotton and elevated on pillows. The temperature, which had risen to 103° F. with the phlegmasia, gradually fell as the swelling subsided, so that by June 2d the patient seemed almost convalescent.

About this time, however, lung symptoms began to develop, and on June 4th well-marked pneumonia existed in the lower lobe of the right lung. A day later, dullness could be distinguished in the posterior portion of the left lung, and from this time on the disease progressed rapidly to a fatal termination. She died, June 8th, at 11.30 p. m. No post-mortem was held.

Though no abscesses could be discovered, the symptoms clearly pointed to the pyæmic variety. Uterine irrigation was not suggested, because systemic infection was well marked, the uterus was extremely tender, and inflammatory deposits existed in its neighborhood.

Case II. *Septicæmic Variety.*—Mrs. J. H., a fleshy Welsh woman, thirty-one years of age, who had had six children, had been in labor for twelve hours, attended by a midwife, when I was sent for on July 23, 1889, and delivered her without instruments, in two hours, of a healthy girl.

Contrary to directions, the clothing and bed-linen were not changed till the following day—some eighteen hours after delivery. By that time the heat had set up decomposition and the smell had become quite offensive. The woman was a midwife herself, and she informed me that she always followed that plan. On the morning of the 25th she was chilly and had a temperature of 101° F., a pulse of 120, and a slightly tympanitic abdomen. The lochia had become very scanty and were somewhat offensive.

Intra-uterine irrigation was attempted, but, as the parts were sore, she positively refused to submit. She was informed as to the possible termination of the case, but expressed no apprehension, as she had always had "chills and fever" after her labors. After opening the bowels freely with a saline cathartic, quinine and antipyrine were given and warm applications were made to the abdomen. Under this treatment the temperature fell for a day to nearly normal, but rose again on the 27th to 104° F. By this time the pulse had become so depressed that alcoholic stimulants and caffeine had to be resorted to, and all the nourishing food given that the woman could assimilate. From this time to August 1st the temperature varied from 102° to 104°, and the pulse from 120 to 140. On July 28th a miliary eruption began to make its appearance, and by August 1st it had covered the whole body, producing an acute dermatitis and lessening the cutaneous excretion. At 5 p. m. on August 1st her temperature was only 103° and she was cheerful and comfortable, with the exception of some hiccough. At 4 o'clock in the morning of the 2d I was sent for and told that the woman had fainted. On my arrival I found her in a comatose condition, with a scarcely perceptible pulse of 160 and an axillary temperature of 109° F. In fifteen minutes she was dead—nine days after delivery.

In this case, if intra-uterine irrigation could have been used at first, there is every reason to believe that the life could have been saved. The coma was probably due to the sudden rise of temperature, which in turn was, most probably, caused by the stoppage of the cutaneous exudation.

Case III. *Putrid Endometritic Variety.*—Mrs. C. P., a fleshy multipara, twenty-seven years of age, had been delivered of four children, and in each of the last three confinements the labor had been difficult and her recovery had been slow, on account of fever, which in her last confinement had kept her in bed for eleven weeks. I was called to her in her fifth confinement, on August 15, 1890, at 9 p. m., and at 10.30 she was delivered of a healthy boy weighing from ten to twelve pounds.

A half hour later the afterbirth was expelled by Credé's method and a bandage applied.

As she usually suffered from after-pains, a mixture of opium and ergot was left which was to be taken as required. The temperature rose only 0·5° F. and there were no complications of any kind except a fissured nipple of the left breast, which healed rapidly under powdered boric acid. As the woman was weak I did not give her permission to rise till August 24th, which she did not avail herself of because of headache. The next morning at 10 o'clock, before she had got up, she was taken with a slight chill and I was sent for. On my arrival the pulse was 140 and the temperature was 104°. She was bathed in perspiration, and prostration was so great that she could not speak above a whisper and was unable to turn in bed. The abdomen was slightly distended and there was some tenderness in the right iliac region. The lochia were scanty, almost colorless, and somewhat offensive in smell. A vaginal examination revealed a tender uterus with the os pretty well closed. The uterine cavity was immediately washed out with a copious injection of hot carbolized water, which brought away several small clots of blood and some shreds of very offensive mucus. The injection was used twice daily, while hot applications were made to the abdomen, and quinine, antipyrine, caffeine, and French brandy were given internally. The next morning the temperature was subnormal, but she was so weak that the brandy and caffeine were continued, with all the nourishing food that could be taken. A saline cathartic was also given, which produced two copious discharges. On this day a miliary eruption made its appearance over all the body and did not disappear for a week, when slight desquamation took place. The intra-uterine douches were used till September 2d, when, there being no odor from the parts and no elevation of temperature, they were discontinued. The stimulants were continued a few days longer, when tonics were substituted, and the patient was discharged.

This case was clearly one of putrid endometritis, where the poisonous products had been absorbed. Scrupulous care was used during her delivery to prevent infection, and she had the most careful nursing by her mother, who kept everything clean, but, in spite of this, the trouble came on. That such cases are sometimes unavoidable will be seen from the reports of Karl Braun's clinic, at Vienna, where every precaution is used to prevent infection. From March, 1887, to September, 1889, there were 7,600 deliveries in his clinic, and among these there occurred 101 cases of putrid endometritis. It is worthy of note that two thirds of these happened in cases where the placenta and membranes came away intact.

Concerning the treatment of childbed fever, too much stress can not be laid on prophylaxis. The physician should thoroughly cleanse his hands and finger-nails with soap and hot water and a nail-brush; then he should disinfect them in a solution of carbolic acid, bichloride of mercury, or creolin, and finally wash them in alcohol.

All towels and cloths used during labor should be clean, and before each examination the hands should be washed in a disinfectant solution. If it is necessary to use instruments, they should be immersed for a short time in boiling water, and then disinfected before use.

The woman should have a thorough bath during the twenty-four hours preceding labor, and when labor begins the vagina should be thoroughly irrigated with a hot disinfectant solution, because many germs may be found in an apparently healthy vagina. This irrigation should be repeated after the child and the after-birth have been expelled, and if during delivery it has been found necessary to invade the uterine cavity with hands or instruments, this should also be irrigated. Irrigation not only washes away blood-clots and destroys germs, but also arrests hæmorrhage and favors uterine contraction. For this any male catheter will do, but the double catheters are better, among which may be mentioned that of Dr. A. Cordes, of Switzerland.

After irrigation, the genitals should be thoroughly cleansed and all soiled linen removed, and then a broad cloth, folded several times and moistened with a disinfectant solution, should be laid over the genitals so as to receive and disinfect the discharge and prevent the entrance of germs. These cloths should be changed several times every day, and all clothing removed as soon as soiled.

If after delivery we have any reason to think—from headache, general malaise, chilliness, or rise of temperature—that things are going wrong, the uterine cavity should at once be irrigated with copious hot disinfectant solutions. The cause is at first local and situated in the uterine cavity, and, if we expect to meet with success, prompt action must be taken to prevent general infection. After this has taken place, irrigation may assist in removing or destroying the germs that remain in the cavity of the uterus, but it can have no effect on those that have found their way into the system.

In most cases intra-uterine irrigation will be found to be sufficient if resorted to in time, but where the microbes have found their way into the substance of the mucous membrane it is well to curette the endometrium and use antiseptics. Of the 101 patients treated thus by Braun, 96 recovered. Three of those that died had general infection before they were operated on. One of the others died from peritonitis due to previously existing salpingitis, and the other died from exhaustion subsequent to hæmorrhage from injury to some of the uterine vessels. The operation is frequently followed by a slight chill and an elevation in temperature of 1°, but this drops in a few hours, and is rarely followed by complications.

In a late number of the *Deutsche Medizinal-Zeitung* a case is reported where Dr. Stahl curetted for puerperal septic endometritis in a primipara of thirty-five years, in whom the membranes had been retained, but, as the system became infected, as was shown by pelvic venous thrombus, he performed supravaginal hysterectomy and treated the stump by the extraperitoneal method.

I mention this case more as a curiosity in the line of treatment than as an example to follow. If the bacteria have found their way into the peritoneal cavity they will multiply rapidly and set up puerperal peritonitis.

Bouilly was the first to suggest laparotomy for this, and in 1887 he instituted the practice that has been followed with indifferent success by others. A successful case is reported by M. Raymond in *La Semaine médicale* for August 20th. The woman was taken with a chill on the third day after confinement, and her temperature varied from 39·8° to 40·8° C. The abdomen was distended and tender and diarrhœa was present. Prostration was rapid and an ecchymotic spot appeared at the level of the great trochanter, indicating general septicæmia and a metastatic abscess. Laparotomy was performed on August 2d and four quarts of purulent fluid were evacuated with a large mass of jelly-like false membrane. The cavity was irrigated with sublimate solution (1 to 10,000), and drainage was used. On August 13th the woman's condition was normal, though she was still weak.

When Max Runge, some years ago, insisted on alcohol, food, and sponging, he established a course of treatment that is being followed by the best practitioners of to-day. In 1876 Breisky and Conrad laid down rules for the use of alcohol in childbed fever, and since then A. Martin has adopted that plan of treatment in many cases with success. Breisky used alcohol for its apyretic effects, but Martin values it chiefly for its stimulating action on the heart and its power of increasing the patient's resistance against infection. Out of eighteen patients treated thus, only five died, of which three were from infection. The amount of alcohol that can be borne under such circumstances without the patient's becoming intoxicated is enormous. One patient in six weeks took seventeen bottles of brandy, thirteen bottles of Burgundy, thirty-seven half-bottles of champagne, four bottles and a half of other wines, and six bottles of porter. With the internal treatment he uses all local means that are necessary.

In a recent number of the *Journal of the American Medical Association*, Dr. N. S. Davis advises caution in the use of the anilides in puerperal fever, because they depress the heart and probably lessen the resistance of the blood cells. This warning is timely, for there seems to be a widespread practice of giving antipyrine in childbed fever.

The blood, as we have seen, has a germicidal action of itself, but this action decreases with its elevation of temperature and is finally lost. It is perfectly rational, then, to try and keep the temperature down, and for this, sponging, quinine, and antipyrine can be used. To get the best results it is well to combine all three. Antipyrine should not be given in doses larger than ten grains, which can be repeated as required, and it should always be combined with caffeine to prevent its depressing effects. Caffeine is also useful in counteracting the adynamia accompanying the disease, and Gottschalk has obtained excellent results from the simple administration of strong coffee in large doses.

Huchard uses caffeine in all cases of adynamia, injecting hypodermically from two to three grammes a day. He uses two solutions, the prescriptions being as follows:

Mild Solution.

℞	Sod. benzoat	grm. 3;	
	Caffeinæ	grm. 2;	
	Aq. dest	grm. 6.	M.

Strong Solution.

℞	Sod. salicylat	grm. 3·10;	
	Caffeinæ	grm. 6;	
	Aq. dest	grm. 6.	M.

Of these he uses from four to eight Pravaz syringefuls a day. Where much tenderness and distention of the abdomen exist, hot or cold applications may be used according to the comfort of the patient, and occasional saline cathartics may be used to drain the peritoneal cavity and prevent intestinal adhesions. If much nausea or vomiting is present, small doses of cocaine will be found to arrest it. Opiates should be given only when the amount of pain demands them, and arterial sedatives should be avoided, as they do more harm than good. In all cases a liberal supply of the most nourishing food should be insisted on, and the most careful nursing obtained that is possible.

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THE IMPORTANCE OF PROMPT TREATMENT IN ALVEOLAR ABSCESS,

WITH CASES.

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Although usually considered as a somewhat trivial affair, an alveolar abscess, if improperly treated, may prove serious enough. So many of these cases have come to my notice lately, in both dispensary and private practice, that I have become impressed with their gravity and need of prompt attention. These abscesses are of two forms, viz., superficial and deep.

The superficial, commonly called gum-boils, are marked by a small puffy swelling of the mucous membrane at the side of a tooth, and occur on either the buccal or the labial surface of the alveolus. They may be due to diseased teeth or to "catching cold," or may be idiopathic, and are more apt to occur when the root of the tooth causing the trouble does not pass below the fold of mucous membrane uniting the gum and cheek. They are usually small in size, but often very tender and painful to the touch. They are of short duration and, their walls being thin, either rupture spontaneously or by pressure of the finger, when recovery rapidly takes place.

The deep abscesses are much more serious; these more directly result from diseased or dead teeth (at times from an impacted wisdom tooth), the exciting cause being usually exposure to wet or cold. In the case of diseased teeth, the irritating products of decomposition pass through the tooth canal and set up an acute inflammation of the circumdental membrane. This membrane being very vascular, inflammation proceeds rapidly from the apex to the neck of the tooth. The swelling of the membrane pushes the tooth up slightly from its cavity, loosening it somewhat. The inflammation extends to surrounding tissues, which become more or less swollen and painful. The inflammatory process may stop here and recovery take place without the formation of pus, but frequently (especially if the tooth is not drawn) the process continues and suppuration rapidly follows.

The pus being confined on all sides by bony walls, it follows the natural law and seeks an outlet where there is the least resistance by the absorption of the thin alveolar process. In this form the pus is below the fold of the mucous membrane connecting the gum and cheek, so they do not open (spontaneously) into the mouth as a rule, but the pus burrows in all directions, forming an abscess of greater or less extent, depending on the severity of the inflammatory process and the resistance of the surrounding tissues. The abscess may burst in several directions, sometimes at a considerable distance from the starting point.

In rare cases, when a tooth of the upper jaw is affected, the abscess may rupture into the nasal cavity, in the neighborhood of the hard palate, and, in case of the bicuspids, into the antrum of Highmore. In one case of the latter, which I assisted in operating on, a sinus had opened on the face and had been discharging for eight years. It healed up promptly after the tooth had been drawn and necrosed bone removed. Abscesses connected with the lower teeth may point under the chin, in the neck, and even as low as the arm-pit. Such cases are always serious and may be fatal.

At Bramann's clinic in Berlin I have several times seen him point out a diseased lower molar as the cause of an abscess pointing in the neighborhood of the clavicle.

Not infrequently the pus burrows through the intervening tissues and bursts on the face, leaving a tortuous sinus filled with unhealthy granulations, at the bottom of which necrosed bone can usually be felt. These fistulæ are generally very slow to heal, often taking months and even years, and frequently leave unsightly scars. The symptoms vary with the severity of the case. In the milder forms there may be only local tenderness, increased by mastication, and slight swelling. In the more severe, the affected tooth is loosened and tender, and the pain is increased by bringing the teeth sharply together or tapping on them with some hard object.

The formation of pus may be accompanied by a chill, followed by a rise of temperature (101° to 103° F.), rapid pulse, and sometimes considerable depression. The pain varies in severity; in some cases it is very sharp and lancinating, but usually it is only a dull, steady ache.

In mild cases the swelling is but slight, while in the more severe it may involve the subcutaneous tissues of the cheek, lips, eyelids, and neck of the affected side, making the patient a most unsightly object. The tongue and mucous membranes of the mouth may also be involved, when mastication will be impossible and deglutition difficult and painful.

In the early stages, before the formation of pus, an attack may sometimes be aborted by a brisk cathartic, quinine, gr. x, and the local application of an evaporating lotion. When it is too late for this, the diseased tooth should be drawn at once, after which, unless the process has gone too far, the inflammation subsides, and the patient is well in two or three days.

About a year ago, while making a tour through the Black Forest in southern Germany on foot, after exposure to the wet one of our party was taken with pain in the right side of his jaw, evidently due to a diseased lower molar. His face soon began to swell and became very painful. Our stock of drugs (a bottle of brandy and some peppermint) failed to give any relief. We were miles from the nearest town, so the poor fellow had a pretty hard time of it until we arrived in Freiburg. Here we hunted up a dentist, who, for a mark and a half (thirty-seven cents), injected cocaine, drew the offending grinder, and gave him some potassium permanganate to gargle with. The next day all pain and swelling had disappeared and he was practically well. I could cite some twenty such cases in which early extraction was performed, when the trouble at once subsided.

All dentists are not so accommodating as the one just mentioned, and many of them will refuse to draw the tooth while inflammation is going on, the reason for which I have never been able to find out.

Patients frequently come to the dispensary with all the symptoms of dental abscess, and, when they are ordered to go to a dentist and have the tooth drawn, the reply is: "I did go to one yesterday, but he said he wouldn't pull it till the swellin' went down."

Many of these patients recover, it is true, but those that do not, and have subsequent necrosis of the jaw and a troublesome sinus, make conservative measures appear decidedly risky, to say the least. Generally this is the patient's own fault, and, unless the pain is very severe, he would rather bear it than have the tooth extracted.

The following case will illustrate:

CASE I.—Mrs. K., twenty-eight, German, consulted me in May, 1890, about a painful swelling on the right side of her face, evidently due to a carious lower molar. I advised her to have the tooth drawn at once. Being of a very nervous temperament and dreading the pain, she put it off for a week, and then had it drawn under gas. About two weeks later she came to me again; the abscess had ruptured externally, leaving an unhealthy fistula, filled with fungous granulations and discharging offensive pus. The patient was pale and anæmic and considerably run down. No necrosed bone could be felt at the bottom of the sinus, so it was cleansed and dressed antiseptically, and the patient put on the use of syr. ferri iod. and cod-liver oil.

Treatment was continued for about a month, when, there being no improvement, I concluded to operate. On July 16th, the patient etherized, an incision was made parallel to the lower border of the jaw, going down to the bone. All broken-down tissue that could be found was removed with a sharp scoop. Wound thoroughly cleansed and dressed antiseptically. Some improvement followed, but on August 20th it was found necessary to operate again. This time a considerable amount of necrosed bone was removed with a chisel, and all diseased tissue carefully cut away. The wound was dressed antiseptically. Since that time the patient has been taking tonics and the wound carefully treated; but repair has gone on very slowly, and it was not until October 22d that the discharge had ceased and the wound was entirely healed.

The debilitated condition of the patient in this case before the trouble began, probably had much to do with her slow recovery. Still, I have no doubt that, if the tooth had been drawn at first as directed, all this trouble and suffering would have been avoided.

In healthy subjects, even after the abscess has opened externally and considerable necrosis taken place, if treated properly, the cavity heals up kindly. The following two cases, occurring in private practice, are good examples:

CASE II.—M. S., a Bavarian, always strong and healthy, came to me on June 4th. About two weeks before, the left side of her face became swollen and painful; she could not eat or sleep. She began to poultice it, and in three days an abscess pointed and ruptured externally. She then went to a dentist, who drew the diseased left lower bicuspid which caused the trouble. The abscess had been discharging ever since, and she then had an ugly sore over the body of the lower jaw, midway between the ramus and the symphysis. This was filled with unhealthy granulations, and at the bottom of the sinus, found at one point, dead bone could be felt. On June 5th the patient was etherized, the parts were cleansed, all unhealthy granulations were removed with a sharp scoop, and the sinus was scraped. An incision was made parallel with the lower border of the jaw, passing through the sinus and going down to the bone. A grooved director was passed through the alveolar cavity into the mouth and the opening enlarged. All necrosed bone was removed with a small gouge, making a straight tract from the tooth cavity to the external wound. The wound was cleansed antiseptically, a strip of iodoform gauze passed through into the mouth, and the wound packed with the same. The wound granulated well, and on June 26th was entirely healed, only a linear cicatrix remaining.

CASE III.—M. R., Ireland; never had been sick before; consulted me on September 15th.

Two weeks before, a diseased right lower molar became tender and painful and soon after the face began to swell. She poulticed it for several days without relief, then went to a dentist, who drew the tooth and stopped the poulticing. The face was still swollen and painful when I saw her. As the abscess was about to burst externally, it was incised and dressed antiseptically. Treatment was continued for a week, when, there being no improvement and necrosed bone being felt in the wound, an operation was advised. On September 25th the patient was etherized and the parts were cleansed. With a sharp scoop I removed all fungous granulations from the sinus, and the opening was enlarged by an incision parallel with the body of the jaw. A director was passed through a tortuous fistula into the alveolar cavity and the opening enlarged. All diseased bone was removed with a small gouge and the wound cleansed antiseptically. A strip of iodoform gauze was passed through into the mouth and the wound packed with the same. The patient was put on soft diet and the mouth washed frequently with weak carbolic solution. The opening into the mouth closed in a few days, and the wound did nicely, with but slight discharge of pus.

On October 19th it was entirely healed, leaving a small but adherent cicatrix.

In conclusion, I would say (and the facts seem to warrant it) that the proper treatment in these cases, when the attack can not be aborted in its early stages, is the immediate extraction of the affected tooth. Even though the tooth may be a valuable one and in a conspicuous place, I think it is far better to take it out than to run the risk of an alveolar abscess, which, even if checked for a time, may occur again and again, is liable to cause the patient weeks of suffering, and may disfigure him for life. Modern dentistry has advanced so that now an artificial tooth looks as well and is almost as serviceable as a natural one. Poultices, as a rule, do more harm than good, as they tend to make the abscess open externally, and, I believe, help induce periostitis, especially before the tooth has been drawn. A steamed fig or a small roasted onion held in the mouth and frequently changed is much better.

In two of the cases cited in which poultices were used the abscess opened externally after the tooth had been extracted.

According to most of the text-books, although a sinus following one of these abscesses may have existed for years, it will close up directly after the tooth has been drawn. Several of the foregoing cases will show that this is not always so.

If drawing the tooth does not relieve, a free incision should be made over the swelling within the mouth as soon as fluctuation is felt, when, even if quite extensive periostitis has taken place, if the wound is kept open, it will usually heal up kindly from the bottom in a healthy subject.

When an abscess opens externally and shows no tendency to heal within a reasonable time, I believe it should be opened freely, and the alveolar cavity cleaned out and allowed to heal up from the bottom.

The Nuclei of Biliary Calculi. — "According to Dr. Naunyn, of Strasburg, biliary calculi, though they appear to have gathered round a cholesterin nucleus, do not arise primarily from masses of this substance, but from some soft matter shed by the walls of the biliary passages, which becomes impregnated with cholesterin, not so much from the bile, perhaps, as from the catarrhal secretion of the mucous membrane of the biliary passages."—*Lancet.*

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KOCH'S ALLEGED CURE FOR TUBERCULOSIS.

In an address before the Tenth International Medical Congress, as our readers are aware, Professor Robert Koch, of Berlin, intimated that he was engaged in a course of experimental research that seemed to him likely to lead to the successful treatment of tuberculosis. Coming from such a man as Koch, that guarded statement was most encouraging, for everybody felt that he was the last man in the world to take a visionary view of such a matter; he had always worked his problems quietly to their indubitable solution, and it was taken for granted that he would do so in this instance. Nobody in the medical profession needed to be told that such a course would require many months of investigation, and there was a firm conviction that Koch was not the man to jump to conclusions. Hence the repeated newspaper statements that he was soon to proclaim his results and conclusions were received with incredulity. But it seems that he has swerved from the line of conformity to precedents established by himself, and has published a statement of his unfinished work, in the form of an article in the *Deutsche medicinische Wochenschrift.* This has been translated into English and published in the *British Medical Journal* and in the *Medical News;* moreover, the gist of it has been telegraphed to the newspapers, and they have spread it before the public, generally with the accompaniment of some such immoderate statement as that Koch has made a discovery of greater importance to mankind even than that of vaccination.

The communication deals almost entirely with the observed effects of the remedy and with the theory of its action; nothing is said of the manner of its preparation, and we are kept entirely in the dark concerning the experimental work that led up to its production. In fact, Koch expressly declines to say more of its nature than that it is a clear, brownish liquid which keeps well when undiluted, but not so well when diluted to the degree called for in its therapeutic employment, although the addition of a little phenol to the diluted liquid overcomes its susceptibility to change to a certain extent. Practically, therefore, it is a secret remedy, and, if it had originated in this country, that fact would preclude its being taken into serious consideration by physicians; but they take a different view of such things in Germany, and it must not be set down to Koch's discredit that he has preferred to keep the nature of his remedy secret for the present, especially as he founds his decision on a natural dread lest inexperienced persons may attempt to make the liquid for themselves, with the result of producing an article capable of doing much harm. In further extenuation of his policy as to this point is his offer to supply physicians with the liquid to as great an extent as the present difficulties attending its production admit of; but it is already reported that applications for it are far in excess of what can be furnished, so that this clear, brownish liquid is the veritable γάλα ὀρνίθων of the day.

Koch states that the remedy has no effect when taken by the stomach, but must be used subcutaneously. He injects it beneath the skin of the middle portion of the back, even in cases of external tubercular diseases, such as lupus, that might readily be subjected to its topical action, if it has any. An injection of 0·25 of a cubic centimetre causes in a person who is not tuberculous a decided rise of temperature, with headache, pains in the limbs, etc. Like effects result from much smaller doses in those who have lupus, tubercular disease of the glands, etc.; and in persons with pulmonary tuberculosis so small a dose as 0·01 of a cubic centimetre suffices for their production, and this is the proper initial dose, although succeeding doses may safely be made larger and larger with a rapidity that Koch thinks not wholly to be accounted for on the ground of tolerance in the ordinary sense of the word. In cases of lupus, the fever is followed by remarkable phenomena in the diseased part; it becomes red and swollen, in some instances with vesiculation, and a crust is formed which, when it falls off, leaves a smooth, clean surface—in some cases a single injection sufficing to bring about this happy result. Koch makes the positive statements that lupus is thus cured by his remedy alone; that in glandular and osseous tubercular affections subsequent surgical intervention may be required to remove the *débris*, thus completing the cure; and that cases of incipient pulmonary consumption have shown under the employment of his remedy such symptoms of improvement as to lead him to think them cured, although he is not positive that relapses may not occur, but thinks that, if they do, they will be quite as amenable to the treatment as the original trouble was.

Koch's theory of the curative action of the remedy is, not that it kills the bacilli, but that it sets up in the diseased living tissue a process that ends in its necrosis; and he implies that the bacilli are cast off with the dead tissue, and that incompleteness of this part of the process may lead to re-infection, as also may failure of the dead tissue to become wholly separated from the organism.

To support all this, he gives absolutely no statistical evidence and not a single clinical history. We have only his statements, which in some respects are rather vague. We may add that so astounding are these statements—so utterly at variance with any known biological laws—that nothing but Koch's great name and the prevalent confidence in his accuracy, produced by his past successes, would lead one to consider his article at all seriously. He states positively that patients in the first stage of phthisis were freed from every symptom of disease, and might be pronounced cured; that patients with cavities not yet too highly developed improved considerably, and were almost cured; but that in very advanced cases there was no improvement. He says that by this he is led to suppose that phthisis, in the beginning, can be cured with certainty by his remedy, but he admits that, thus far, no conclusive experience can be brought forward to prove that the cure is lasting.

In regard to his theory of the way in which the remedy acts, namely, that it destroys tubercular tissue without affecting any other structure, whether healthy or diseased, it must be said that he professes to have discovered a substance that has this extraordinary peculiarity—it is destructive to the cells concerned in the inflammation called tubercular. Possibly it may kill them directly because it is poisonous to cells engaged in the formation of tubercle, or it may kill them indirectly by producing inflammatory changes about them, or it may destroy them in some other manner. Whatever may be the way in which it acts, the statement is positive that it is an enemy of tubercular processes, not of tubercle bacilli. Indeed, the bacilli in the dead tissue may again infect the organism, and probably surgical interference will be needed to remove them. No substance is known that has an effect at all comparable to what is alleged for this remedy. Vaccination, of course, is by no means analogous in its action, since a living organism is introduced which does not destroy the small-pox poison, but only renders the body proof against it, and, moreover, does not, so far as we know, seek out particular cells or tissues for destruction.

We most earnestly hope that in this matter the medical profession will wait patiently and calmly for more facts. It is impossible to disregard or disbelieve Robert Koch, save after careful and prolonged investigation. So great is his name—so great his genius—that any observation of his carries with it a universally admitted probability of truth. In this matter, however, we can not see that he has adduced proof sufficient for his statements; we do not know what he has seen. In no disease is the patient's faith a more important element in the treatment than in pulmonary consumption, so far, at least, as temporary improvement is concerned. How often have we heard of a new "cure" under the use of which the cough, the expectoration, the fever, and the night-sweats were diminished and there was a gain of flesh! Yet the patients seem to have died, after all. What will be the future of Koch's discovery? We may hope much; we know nothing. In justice to Koch, it must be said that this seems to be precisely his own view, at least, so far as phthisis is concerned. In the mean time, it is not necessary for physicians to go to Berlin at present to learn about this remedy, even if they do not know how to give a subcutaneous injection. This they can learn at home, and they are not likely to learn anything else about the method abroad.

APPENDICITIS OR ECPHYADITIS?

The renewed interest recently aroused in diseases of the vermiform appendix has brought to light the dissatisfaction felt by some surgeons and pathologists at the use of the term *appendix* as a basis for the construction of words indicative of diseases of that organ or of operations made necessary by them. The reasons for this feeling are partly philological and partly economical—in the interest of economy of time and space. It is objected that *appendicitis* is a hybrid word, a Latin root with a Greek termination, a product that all lovers of order and uniformity in language are not inclined to employ; further, that it is wholly unsuitable for combination with the accepted termination signifying excision, *ectomy*, and, as removal of the appendix is an operation that has apparently "come to stay," we need something more convenient than that combination of four words to express it.

The same objections, and others, apply to *perityphlitis.* There is no *perityphlon*, consequently there is no inflammation of it, no perityphlitis; and *perityphlectomy* would be simply outrageous. What is the alternative? Liddell and Scott give us ἐκφύας and ἀποφύας as signifying an appendage, and Galen applied ἐκφύας particularly to the vermiform appendix. To this extent ἐκφύας may be said to have a title to be employed as the basis of the terms necessary to be employed to denote diseases of the appendix and operations incident to them, and its competitor is further handicapped by the use of *apophysis* to indicate a bony prominence. So, if we must have inflammation of the vermiform appendix, let us respect it as *ecphyaditis*, and let us find in *ecphyadectomy* the means of relief from the suppurative, perforative, and philological burdens it imposes.

MINOR PARAGRAPHS.

BRANCHIAL MALFORMATIONS.

Kostanecki and Mielecki, in a recent number of Virchow's *Archiv*, give an exhaustive review of the literature and recorded cases of congenital branchial fistulæ, pharyngeal diverticula, and branchiogenic tumors and cysts. The anatomical importance of the relation of congenital cervical fistulæ to branchogenic malformations has, according to them, been clearly shown to be the result of arrested development of the branchial clefts. In the development of the embryo these clefts all close with the exception of the one forming the external auditory meatus, the tympanic cavity, and the Eustachian tube. Should any of the clefts remain open, a cervical fistula results, and it may be formed either from without or from within, and be complete or incomplete. The branchiogenic tumors and cysts found in this connection are epithelial in origin and dependent upon the branchial arches. The dermoids of the submental region and of the base of the tongue are not considered homologous with those of evolution or development, but they stand in relation to those which occur in the anterior mediastinum, and are the result of fusion of the entoderm with the ectoderm. The membranous and cartilaginous excrescences bear no morphological relation to the cervical fistulæ, but are independent products of the visceral arches, and the ear and ear muscles are heterotopic reproductions from the same parts. The congenital ear fistulæ stand in no relation to the first branchial cleft, but are disarrangements of the second. The cheek and lower-lip fistulæ are considered to be homologous with the cervical, which are secondary malformations in the first branchial arches. Hitherto, work on this question has been very much in the dark and problematical, but recent embryological investigations have given a pretty clear explanation of the causes of branchiogenic cervical fistulæ. The authors think that, if physicians would make an accurate anatomical history of congenital malformations coming under their notice, important scientific information would be elicited to clear up many doubtful points bearing on the question.

THE PHYSIOLOGY OF THE LARYNX.

Dr. Felix Semon, in a recent number of the *Proceedings of the Royal Society*, gives the result of considerable research and experiment as to the position of the vocal bands in quiet respiration in man, and as to the reflex tonus of the abductor muscles. While the laryngeal phenomena attending the act of respiration in man had attracted the attention of physiologists and laryngologists, yet investigation on this point had been comparatively limited, and nothing like unanimity of views had been obtained. The author, in order to show that the glottis was wider open during quiet respiration than after death or after division of the vagi or of the recurrent laryngeal nerves, had first drawn from corroborating evidence of trustworthy observers, and then from direct comparative measurements of the width of the glottis during quiet respiration and after death, and from the results of experiments on animals. Though the question would demand further elucidation, the outcome of his investigation was: (1) That the glottis in man was wider open during quiet respiration, inspiration, and expiration than after death or after division of the vagi or of the recurrent laryngeal nerves; (2) that this wider opening during life was the result of a permanent activity (tonus) of the abductors of the vocal bands and posterior crico-arytænoid muscles, which, therefore, belonged not merely to the class of accessory, but to that of regular, respiratory muscles; (3) that the activity of these muscles was due to tonic impulses which their ganglionic centers received from the neighboring respiratory center in the medulla oblongata, and that the regular activity of the abductors of the vocal bands during life belonged to the class of reflex processes; (4) that, in spite of their additional innervation, the abductors of the vocal bands were physiologically weaker than their antagonists; (5) that these antagonists, the adductors of the vocal bands, had primarily nothing at all to do with respiration, and ordinarily served the function of phonation only, their respiratory functions being limited to assistance in the protection of the lower air-passages against the entrance of foreign bodies and to assistance in the modified and casual forms of expiration known as coughing and laughing.

BUFFALO LITHIA WATER AS A SOLVENT FOR VESICAL CALCULUS.

The solvent influence of the Buffalo lithia water, from a spring in Virginia, over uric-acid gravel and calculus has been the subject of some recent communications to the journals. In the *Medical News* for November 8th two cases are reported by Dr. Samuel Hannon, of Washington, in which the lithia water afforded great relief by crumbling in pieces vesical calculi of considerable size. In one case, that of a woman, thirty-eight years of age, the water was used *ad libitum* for twelve weeks; in the other case, that of a man of sixty, it was used ten weeks, reducing the vesical concretions, apparently by dissolving them, and ameliorating the cystitis which was present in both cases at the time the use of the water was begun. In the second case, boric-acid washings of the bladder were at first used, and a doubt is expressed by the writer whether the crumbling process may not have been due, in part at least, to this agent as well as to the lithia water; at all events, the diminished irritation along the entire urinary tract was most marked and reacted favorably upon the patient's general health, so that the dyspepsia, insomnia, and diarrhœa—his former symptoms—began to disappear before the eighth week. In the first case, also, the reaction upon the general health was decided. Before the patient began to use the water she had suffered from attacks of renal colic for eighteen months, which were recurring with increased frequency; she had also had dyspeptic symptoms, hæmaturia, and one attack resembling uræmic convulsions. After three or four months the urine was found normal and the cystitis had vanished. Dr. C. H. Davis, of Meriden, Conn., has reported in the *New England Medical Monthly* a case of disintegrated calculus where the analysis showed that it was made up of uric acid with a trace of oxalate of calcium. The Buffalo lithia water was used in this case also. The vesical calculus in this instance was of two years' standing, and the patient was opposed to any operative procedure being undertaken for his relief. Within a few days after the use of the water was begun he commenced to get rid of portions of his calculus when urinating. For several days in succession he passed as much as a teaspoonful of detritus, and the passage of fragments was almost constant until, at the end of about a year, he was entirely relieved of all vesical trouble.

CARDIAC AFFECTIONS OF CHILDHOOD TREATED WITH STROPHANTHUS.

Dr. Moncorvo, of Rio Janeiro, has made somewhat extensive experiments with strophanthus in the cardiac affections of children. According to an abstract of his paper in the *Practitioner*, this drug is especially suitable as a cardiac and diuretic remedy in the diseases of childhood, because it is not only prompt to act, but completely harmless, even to children of a very tender age. Its action is both even and energetic. Fraser's alcoholic tincture has proved in his hands the preferable form of the drug, and when given in valvular lesions—both tricuspid and mitral—with diminished urinary secretion, promotes the return of tonicity of the heart, regulates the rhythm of its beats, and increases the amplitude and strength of the pulse. Its diuretic action is also well marked in a large proportion of these cases. It is a cardiac tonic in children's cases of pulmonary and broncho-pulmonary affections that are so frequently complicated with cardiac insufficiency. The happy results of the employment of this remedy often last long after its administration has been stopped. Numerous instances of the prolonged beneficial influence of the drug confirm the author in his opinion that strophanthus is pre-eminently the cardiac tonic for children.

PAMBUTANO, A SUBSTITUTE FOR QUININE.

Dujardin-Beaumetz has, according to the *Medical Press and Circular*, recently called attention to the antiperiodic properties of an extract obtained from the root of a shrub called pambutano. The aqueous decoction of the root has been largely and successfully used in the treatment of malarial fevers; it has been beneficial in a number of cases in which the symptoms did not yield to quinine. The isolation of an alkaloid has not hitherto been effected, but the plant contains various fatty bodies and essential oils in addition to a special kind of tannin. All the active properties of the root are extracted by maceration in alcohol at 60°. The writer in the *Press and Circular* adds that, while the high value of quinine as a febrifuge and antiperiodic is incontestable, the faults and failures of the old favorite do declare themselves from time to time, and hence the discovery of other vegetable products which have similar powers is not without importance, since some of these may and do succeed when quinine has proved ineffectual.

THE OPERATIVE TREATMENT OF MÉNIÈRE'S DISEASE.

Dr. Charles H. Burnett, in a paper read before the American Otological Society at its last meeting, gives an account of a case of aural vertigo which he permanently cured by excision of the membrana and the malleus. Retraction of the chain of ossicles, induced by chronic catarrhal adhesion of the membrana and malleus to the inner wall of the drum cavity, was supposed to be the cause of the tinnitus and vertigo. Excision of these adherent parts of the conducting apparatus was performed under anæsthesia, with immediate relief, and there had been no return of the annoying symptoms, two years and a half having elapsed since the operation. This seems to be the first case reported as having been cured by operative methods. The result of treatment in this case suggests also that the origin of Ménière's disease is possibly often mechanical and not neuropathic.

THE JOHNS HOPKINS UNIVERSITY.

The advocates of the admission of women to the educational privileges at this institution have made favorable progress. At a recent meeting at Baltimore it was reported that the ladies moving in this matter proposed to continue their work upon the endowment fund until half a million dollars had been pledged to the Women's Medical School of the university. Among the active friends of the movement are Miss Mary Garrett, Miss Clara Barton, Mrs. Harrison, the President's wife, Cardinal Gibbons, Col. R. R. Porter, Dr. Richard H. Derby, Dr. H. D. Noyes, Dr. B. M. Murray, Gen. Felix Agnus, and Col. Rainey. Many of them were present at the recent meeting, above referred to, going to it from a distance in order to attest their hearty approval of the project.

GONORRHŒA IN THE FEMALE.

The *American Journal of the Medical Sciences* reports the work of Prochownick in the electrical treatment of recent gonorrhœa in the female, the result of which is published in the *Münchener medicinische Wochenschrift.* The author, in testing the antimycotic action of the positive pole of the galvanic current, has found that with this pole introduced into the uterus, and a current of 120 milliampères used for ten minutes, in every instance, after four séances the specific micro-organisms disappeared, and after six or seven applications the character of the discharge was entirely changed.

THE COOMBE LYING-IN HOSPITAL, DUBLIN.

It is contemplated to present the master of the hospital with a testimonial on the occasion of his approaching retirement from that office, which he has held for the last seven years. It is probable that an ex-assistant master (and Dr. Hoey's name is mentioned) will be appointed as his successor.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 18, 1890:

DISEASES.	Week ending Nov. 11.		Week ending Nov. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	25	9	21	9
Scarlet fever	74	9	59	7
Cerebro-spinal meningitis	2	2	2	2
Measles	174	15	161	13
Diphtheria	96	29	99	29
Small-pox	1	0	0	0
Varicella	2	0	3	0

The Orton Prize.—Dr. J. G. Orton, as president of the New York State Medical Association, has offered a prize of $100 for the best short popular essay on some subject connected with practical sanitation, under the following conditions: 1. Competition to be open to all. 2. Essays to be forwarded to the secretary of the association, Dr. E. D. Ferguson, Troy, N. Y., not later than August 1, 1891, accompanied by the name of the author under a separate seal. 3. Examination and award to be made by a committee appointed by the Council of the association. 4. The successful essay to be read at the next annual meeting of the association, and, if approved by the Council, to be offered for publication in the secular press, and issued in tract form or otherwise for general circulation. 5. Authors of essays, unsuccessful as far as the prize is concerned, but found worthy of special commendation, to receive intimation as to a proper disposition to be made of them.

An Assault on a Naval Surgeon in Brooklyn.—Dr. Delevan Bloodgood, medical director of the laboratory at the Brooklyn Navy Yard, was, on November 8th, the victim of a highwayman's assault. He was knocked senseless and robbed of all the valuables he had upon his person while returning at night to his residence near the Naval Hospital. The blow was probably given from behind by means of a sand-bag, and was only a little short of being murderous in its violence, but, fortunately, no bones were broken and no untoward symptoms have since arisen.

The Death of Dr. Richard J. Levis, of Philadelphia, the well-known surgeon and teacher, occurred on the 12th inst., at Kennett Square, Pa., after a brief illness. He was a native of Philadelphia, born sixty-three years ago, the son of a physician and coming from a family of French origin, but having an ante-Revolutionary history. The family name was De Levis, but the first American representative, who came over with William Penn in 1682, adopted the plainer way of writing it. The heads of the family have for two hundred years or more been practitioners of medicine or surgery, with a marked predilection for the latter. Dr. Richard J. Levis was an alumnus of the Jefferson Medical College, of the class of 1848. While pursuing his studies at that institution he was also an assiduous private student of Professor Mütter's, having in view the perfecting of himself in surgery as a specialty. In 1859 he was appointed surgeon to the Pennsylvania Hospital. During the war he was surgeon in charge of two military hospitals which were established near Philadelphia for the purpose of treating the deformities resulting from gunshot wounds, and while in these positions had nearly two thousand amputations under his care. He became surgeon to the Wills Hospital for diseases of the eye and lecturer in the same clinical department at the Jefferson school. In 1871 he was appointed to the surgical staff of the Philadelphia Hospital, and a few years later, when the Jefferson College Hospital was built, he was given a like position in it. He also became, about the same time, lecturer on clinical surgery at that college and at the Philadelphia Polyclinic and School for Graduates. From 1877 to 1887 he was president of the board of trustees of the Jefferson Medical College. He was also at one time the president of the State medical society, and in 1886 of the county society. He retired from practice in 1887 to his country home, called Cedarcroft, formerly the residence of the late Bayard Taylor. His fatal illness was pneumonia.

The Death of Dr. J. R. Quinan, of Baltimore.—We regret to record the death of Dr. Quinan, which occurred very suddenly on the 11th instant. Dr. Quinan was born in Lancaster County, Pennsylvania, but, after completing his medical studies in the Jefferson Medical College in 1844, removed to Calvert County, Maryland, where he remained, engaged actively in medical practice, until 1867. He then went to Baltimore, and resided there until his death. Dr. Quinan was well known throughout Maryland as a man of fine literary taste and ability, of considerable learning, and of enormous industry; and by the public at large he was particularly well known for his researches in historical subjects and especially in the medical history of his adopted State. To the smaller circle of his friends he was known as a man of singularly unselfish and generous character; thoroughly upright and honorable, alike in his ideas and in his actions, loyal to his convictions, a genial companion, a true friend; one who, himself modest to a fault, was quick to appreciate the good points of another; one who, scorning everything base and mean as something alien to him, was yet full of charity and as far removed as possible from Pharisaical self-righteousness. Such men, though not filling the place in the world's estimation which is occupied by their more self-assertive colleagues, are still the true glory of the medical profession, and never more so than now, when the self-seeking struggle for prominence seems continually on the increase, and when the science of medicine itself, which is distinctively the science of benevolence and self-sacrifice, seems in danger of losing its character, while its votaries are being swept along in the universal rush for riches and preferment.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 9 to November 15, 1890:*

Alexander, Charles T., Lieutenant-Colonel and Surgeon, and Middleton, Johnson V. D., Major and Surgeon, are, by direction of the Secretary of War, appointed members of a board of officers, appointed to meet, at the call of the senior officer thereof, at the rooms of the Board of Engineers, Army Building, New York city, to examine such officers of the Corps of Engineers as may be ordered before it, with a view to determining their fitness for promotion, as contemplated by the act of Congress approved October 1, 1890. Par. 4, S. O. 261, A. G. O., Washington, D. C., November 7, 1890.

Cowdrey, Stevens G., Major and Surgeon. The leave of absence granted in S. O. 112, October 24, 1890, Department of Arizona, is, by direction of the Secretary of War, extended fifteen days. S. O. 263, Headquarters of the Army, A. G. O., Washington, November 10, 1890.

McElderry, Henry, Major and Surgeon. The extension of leave of absence on account of sickness granted in S. O. 214, September 12, 1890, from this office, is, by direction of the Secretary of War, further extended two months on surgeon's certificate of disability. Par. 28, S. O. 263, A. G. O., November 10, 1890.

Norris, Basil, Colonel and Surgeon, and Sternberg, George M., Major and Surgeon, are, by direction of the Secretary of War, appointed members of a board of officers, appointed to meet, at the call of the senior officer thereof, in San Francisco, Cal., to examine such officers of the Corps of Engineers as may be ordered before it, with a view of determining their fitness for promotion, as contemplated by the act of Congress approved October 1, 1890. Par. 5, S. O. 261, A. G. O., Washington, D. C., November 7, 1890.

Walker, Freeman V., First Lieutenant and Assistant Surgeon, Fort D. A. Russell, Wyoming. Leave of absence for one month, to take effect on or about the 15th inst., is granted. Par. 3, S. O. 85, Department of the Platte, November 11, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 15, 1890:*

Owens, Thomas, Surgeon. Ordered to the Museum of Hygiene at Washington, D. C.

Martin, H. M., Surgeon. Detached from the Receiving-ship Wabash and ordered before the Retiring Board.

Rixey, P. M., Surgeon. Continued in charge of Naval Dispensary at Washington, D. C., until November 20, 1891.

Green, E. H., Passed Assistant Surgeon. Promoted to Surgeon. November 10, 1890.

Smith, Howard, Surgeon. Placed on the Retired List. November 10, 1890.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the three weeks ending November 15, 1890:*

Carter, H. R., Passed Assistant Surgeon. Granted leave of absence for fifteen days. November 14, 1890.

Guitéras, G. M., Assistant Surgeon. Granted leave of absence for thirty days. October 29, 1890.

Hussey, S. H., Assistant Surgeon. To proceed to South Atlantic Quarantine Station for temporary duty. October 28, 1890.

Geddings, H. D., Assistant Surgeon. Granted leave of absence for fourteen days. November 14, 1890.

Groenevelt, J. F., Assistant Surgeon. To report to the Superintendent of Immigration for temporary duty. October 28, 1890.

Society Meetings for the Coming Week:

Monday, *November 24th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *November 25th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Jenkins Medical Society, Yonkers, N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *November 26th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *November 27th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *November 28th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

HERMAPHRODITISM.

151 Fairfield Ave., Bridgeport, Conn.,
October 29, 1890.

To the Editor of the New York Medical Journal:

Sir: The following case was brought to my notice by the commandant of police of San Salvador, Salvador, C. A., while I was in charge of the sanitary service of said Government. As it is a unique case, I should like to have it reported, with a view of ascertaining whether a similar case has ever been seen: J. H., a house servant of masculine features and movements, aged twenty-eight, height five feet seven inches, weight one hundred and thirty-nine pounds, was arrested by the police for violation of the law governing prostitution, which compels prostitutes to register with the Direction-General of Police and pass a weekly examination by a surgeon detailed for that purpose. On examination, both female and male organs of generation were found in a remarkably well-developed condition. The labia majora were of normal size, but flattened on their anterior surface. The labia minora and the hymen were absent. The vagina was spacious, four inches and a quarter long anteriorly and six inches posteriorly. The os uteri was torn on the left side. There was profuse leucorrhœa. Seven years before, she had given birth to a normal female infant. In place of the clitoris there was a penis which when in erection measured five inches and a quarter long by three inches and five eighths in circumference. The glans penis and the urethra were perfectly formed. The scrotum, which was two inches and an eighth long, contained two testicles about an inch in length and two inches and a half in circumference. The mons Veneris was sparsely covered with short, straight, black hair. Both sets of organs were perfect in their functions, semen being ejected from the penis and the ovaries being capable of producing eggs. Scanty menstruation occurred every three weeks, and lasted but two days. Sexual gratification was said to be equally distributed between the two sets of organs.

Up to about seven years before, masculine clothes had been worn, but when pregnancy became apparent the local authorities compelled a change to female attire.

C. W. Fitch, M. D.

Special Articles.

THE OPENING RECEPTION IN THE ACADEMY OF MEDICINE'S NEW BUILDING.

The Academy's handsome and substantial new building in West Forty-third Street has been used for meetings for a number of weeks past, but has not until now been in the state of completion required for such an occasion as a formal opening. This took place on Thursday evening, the 20th inst. The reception committee, the names of whose members we have already published, had made arrangements for the comfort of a great number of guests, and the auditorium was occupied by the fellows of the Academy, by distinguished physicians from other cities, by a few non-medical men interested in such progress as the occasion exemplified, and by the ladies who accompanied them. The president, Dr. Alfred L. Loomis, occupied the chair.

The President's Address.—Dr. Loomis spoke as follows: Fellows of the New York Academy of Medicine, Ladies, and Gentlemen: I count myself most fortunate that it is my privilege to speak to you words of welcome in our new home. The only language which my heart prompts me to utter to-night is the language of congratulation—congratulations for the *past*, the present, and the future of our Academy. Forty-four years ago representative men in different departments of medicine, actuated by a spirit of devotion to a high scientific purpose, founded this Academy. Interwoven with its early history are the names of John Stearns and John W. Francis, Alexander H. Stephens and Alexander Hosack, John W. Draper and Joseph M. Smith, Valentine Mott and Francis Delafield, and a long list of others whose names and medical achievements made honorable the medical profession of their day. With such founders the membership of the Academy soon included most of the active medical workers in the city, and became the strongest and one of the most influential medical organizations in the State. From year to year it has grown in professional esteem and public confidence, and its advancing history has been stamped by the life and labors of such noble ones as Willard Parker, Alfred C. Post, James Anderson, Alonzo Clark, Edmond R. Peaslee, Austin Flint, William H. Van Buren, James R. Wood, Cornelius R. Agnew, and a host of less prominent, but noble, self-sacrificing spirits around whose memories we delight to linger.

Time will not permit me, at this hour, to even mention the many important papers that have been read and discussed, and the large amount of original work which has become a part of the scientific history of this Academy. As one reviews the scientific work of those earlier years, he congratulates himself that he is a fellow of such a fellowship. An organization which has given so much to the profession as ours has a *past* for each one of us to be proud of, and I may well congratulate you this evening on the past of the New York Academy of Medicine. We step, to-night, into a present full of promise.

In my inaugural address, less than two years ago, I stated that, in order that our Academy might become the center of the scientific activities of the entire profession of this city, it must have a suitable home, a building that should furnish accommodations for a large and well-selected library, with reading-rooms and commodious meeting-rooms for all our medical societies. Such a building is ours to-night, more elegant, more commodious, and better suited to our wants and work than the most sanguine could have hoped for two years ago. With a library capacity for 200,000 volumes, and a well-selected library of 50,000 volumes, supplemented by the largest and best collection of journals to be found in this country, we may rightfully maintain that we are in some degree meeting the highest requirements of scientific medicine. The influence which such a library will have, not only on the intellectual status and culture of the profession, but upon its moral tone, can not be estimated, for there is an atmosphere about a large and well-selected library which does not favor the growth of a mean, money-calculating spirit; it conduces to broadness, tolerance, and a love of the higher and nobler attributes of man.

Our membership has reached nearly seven hundred, and includes most of the active workers in our profession in this city and many in the State. Every specialty in medicine is represented by those who have become distinguished in their chosen lines of work. There are now established and well-organized sections in all the special departments of medicine and surgery, so that each fellow may find a place with congenial workers for making public the results of his own observations and experiments, under the sifting criticism of experts; and thus learn what may have been done by others in the way of support or in opposition to his own work. Not only are the combined scientific labors of our general meetings and sections, to a large degree, leading and guiding the medical thought and research of our own country, but their influence is being felt in the medical councils of Europe. We are also exerting an increasing influence on public thought and action. We are becoming a power in this city and State, which is being more and more felt in the legislative and economic work of our commonwealth. The public health and safety of our citizens are being more and more committed to our hands, with the conviction that by wise counsels and practical methods we shall protect it from the ravages of disease by an ever broadening and more perfect sanitary science. Our fellow-citizens, in response to our appeals made to them during the past two years, have shown by their sympathy and liberal donations that they are recognizing more and more the importance of our work and its influence upon the general weal. Let us act wisely, energetically, and unitedly, and we may be assured that in the near future we shall be able to turn more largely the influence of the accumulated wealth of this great metropolis into channels for the support and encouragement of scientific medicine. Our profession was never so full of promise as at present—never before were there so many strong men in its front ranks as now—never were there so many cultured and brilliant minds entering it as to-day. If this great and daily increasing power can be centralized, as is possible, within these walls, its influence on the social, domestic, business, and religious life of our city can not be estimated; already the better minds in all departments of science are turning to us for help and inspiration. There is no longer a strife of sects or creeds; but a struggle for the supremacy of intellectual power and broad culture over weakness and charlatanism. There is no place in the broad field of scientific medical inquiry for the would-be medical man who talks of the potential power of infinitesimal abstractions, and the so-called scholastic illusions. We are living in and are part of an age of facts, not fancies; work, not theories. This epoch in medicine is indeed more brilliant and eventful than any which has preceded it, and the prospect grows constantly more encouraging and richer in possibilities. The efforts of the many enthusiastic workers who to-day are struggling for truth in medicine must produce a general advance, notwithstanding, as Dr. John W. Draper once said: "There has been through all the ages, constantly hovering about honest workers in our science, a host of impostors and quacks, who will continue to thrive so long as there are weak-minded and shallow men to be deluded, and vain and silly women to believe."

I congratulate you, then, that with the most advanced workers in every department of scientific medicine gathered in our fellowship we meet to-night about our own hearth-stone in full possession of all those facilities which were needed to render our work most efficient and stimulate us to still higher achievement in the future, so that the work done in these halls shall have a forming and crystallizing power on the medical literature of our whole country. The days of doubt and anxiety are past, success has ceased to be a question, the auspicious present marks the beginning of a new and broader career for our Academy. It is here in the center of this great city to do its part in stimulating its intellectual and moral forces. With increasing opportunities come deeper obligations. Our future must not be gauged by past successes or present advances.

We are under obligations to the past, but under bonds to the future; as we in turn pass this trust to our successors, to those who in the future are to be the exponents of the lofty mission to which this building is dedicated this evening, it must not have suffered in our hands, but have grown and broadened under the impulse of true enthusiasm and faithful work. Yesterday we read the history of the past, to-day we make a history for the future, and, whether he will or no, every fellow in our number must leave his mark, be it little or much, in the records of this Academy. Let us be inspired, then, with the thought that our fellowship shall become a power in raising our profession to the high place which the future shall assign to it, centralizing its influence and elevating it socially and intellectually to a position which was not hoped for in the past or attained to in the present.

Our future must be and will be interwoven with the many and rapid transformations that are to take place in every department of science, and our relations must become more and more intimate with the great public, who are fast realizing that the first mission of our labors is the prevention of disease. The career of the physician of the future will be nobler and pleasanter, because he will have less of ignorance and prejudice to combat, but he will require a higher culture than his representative of to-day. Here in this library and in these halls both the medical profession and the philanthropist will find that inspiration which shall give birth to a greater devotion to the alleviation of human suffering and a better realization of our duty in the elevation of the masses to a higher civilization. We must never look backward, but always forward. Provided with the machinery of wisdom we have inherited, but not wise in our own conceit, let us make this building the great workshop where the fires of scientific enthusiasm and persistent labor shall smelt from out the ores of our daily experience the pure metal of truth that, cast in the molds of patient thought and polished by the sharp emery of keen and kindly criticism, may some day furnish to generations yet unborn armor and weapons with which they will advance victorious over all the forces of death save threescore years and ten.

So shall the congratulations which we utter to-night re-echo from these walls when other voices recall this day. Join with me, then, in thanksgiving to the Great Physician for what has been accomplished, and in this invocation: that these walls may not crumble or cease to shelter faithful, earnest, Christian men until suffering humanity is free from its bondage to lust and excess, and is victorious in its struggle against the invisible arrows of disease.

The Anniversary Oration was then delivered by Dr. EDWARD L. KEYES, who said:

Mr. President, Fellows of the Academy, Gentlemen, and Ladies: If there are sermons in stone, then an address has already been delivered to you to-night on entering these walls, in a strain of greater dignity than any to which I may aspire. The fact of the existence of this building at all in the graceful form in which you see it, devoted as it is to be to philanthropic and humanitarian ends—this in itself is a whole volume, a canticle of praise to the energy of its promoters, and a pæan of gratitude to the liberality of those whose material bounty has made its erection a possibility. Those of us who are to possess this well-equipped arena for scientific effort, this nucleus from which shall radiate ever-broadening lines of medical thought, have lived to see a good day, and to enter the promised land toward which our earnest expectancy has led us through many a long hour and weary year; and in contemplation of the work accomplished, in that grateful lassitude which accompanies the consummation of a successful effort, we might perhaps with better grace muffle our ineffective voices and allow the stones to discourse to you in the eloquence of their majestic silence. Yet this may not be. Some articulate words are called for, and if I, who have been honored by being made the mouth-piece of my fellow academicians, can, as an impersonality, render to you for them any words in harmony with the occasion, the accomplishment of the pleasant duty will be its fitting reward.

An academy is an institution sanctioned by illustrious precedent in that group of devoted followers who, in the groves of the suburb of Athens bearing this name in the year 348 before Christ, clustered around Plato as he "taught the truth"; and to teach the truth after investigation has been the proper function of the academy ever since that day. The various institutions of learning which in different scientific fields have borne this name have made for themselves everlasting renown and have established a criterion by which, if our little body of earnest workers is to be judged, it behooves us to spare no effort that our results may be deemed worthy to be enrolled upon the same scroll of honor.

The age in which we live is distinguished notably along three prominent lines—by material progress, by the broad dispensation of rational charity, and by the far reaching effectiveness of scientific study in its practical application to the needs of mankind. This building in which we are assembled represents a crystallization of the essence of all these lines. The material progress is represented by the graceful outlines of the building and its commodious internal structure, which the architect has ably conceived and the workmen have faithfully executed. The very existence of the building is the acme of a broad charity, since it stands for the accumulation of many hard-earned dollars, that this institution may live and become effective, not solely for those who make immediate use of it, but that the fruit of their labors may spread abroad through the land for the benefit alike of all who are in need; and it stands for science, for it is the rostrum from which science speaks; it is the arena in which science contends; it is the soil in which are implanted the roots of that tree of medical knowledge in the branches of which the investigator may find the bud, the flower, the ripening fruit of past experience; it is the fountain from which shall emanate rivers of refreshing sweetness to cool and succor the parched sufferer along the dusty highways of disease.

And what to say of the academic body itself, of which this edifice is the outward and visible sign? Conceived, as its historians have often narrated, conceived in the spirit of good fellowship and brotherly kindness, on the evening of November 18, 1846, at a dinner of the Society for the Relief of Widows and Orphans of Medical Men, it took shape December 12, 1846, with the sanction of about two hundred and sixty physicians, under the immediate direction of Alexander H. Stephens, assisted by Parker, Watson, Mott, Isaak Wood, Smith, and others, was born on the 6th of January, 1847, and baptized by legislative enactment of incorporation on the 23d of June, 1851.

The motive for its formation was stated by its founders to be a "lack of harmony and concentration of effort for scientific purposes in the profession" and a desire to elevate a barrier against quackery, which, at that time, it appears, had reared a more formidable front than before or, possibly, since that day. At its birth its future functions were defined to be: 1. The cultivation of the science of medicine. 2. The advancement of the character and honor of the profession. 3. The elevation of the standard of medical education. 4. The promotion of the public health.

The Academy is, therefore, now in its fifth decade. It has lived through its babyhood and period of riotous youth, homeless at first, and wandering about seeking shelter, and having no roof to call its own, until well along in its twenty-seventh year, when, on December 24, 1874, it secured, largely through the energy of Dr. S. S. Purple, a permanent abiding place at No. 12 West Thirty-first Street.

There might almost be said of the Academy what has been tersely written of the life of man, dividing it into decades:

At 10, a child;
At 20, wild;
At 30, sound, if ever;
At 40, wise;
At 50, rich;
At 60, good, or never—

except that the Academy has been from the beginning good, a quality which may not be affirmed with equal confidence of all men. For surely at ten the Academy was a child and a wanderer in the streets; at twenty we may be pardoned for declining to inquire into her follies; at thirty she was certainly sound—indeed, there never has been a question of the health of the organization; at forty who shall deny that she was wise, for it was in the early forties that the necessity for expansion was felt, and that spirit generated which has culminated in this our forty-fourth year in the completion of this modern home, in which the treasures of our library will be adequately protected from fire, and wherein ample provision has been made for the convenience of present work and future expansion. And in signaling this triumph of the Academy's fourth decade, it is impossible not to pause and pay tribute to our president, Dr. Loomis, whose energy, zeal, and ability have contributed so largely toward the accomplishment of the result.

It is hardly necessary to carry the simile further. At fifty the Academy can not fail to be rich. She is rich now in the love of her children, in the respect in which she is held by the community at large; she is rich in her library and in the accumulation of good work by her members. This is the material wealth of a scientific body, and of this she has already a fund and a steadily increasing store.

At sixty the Academy becomes immortal, and will remain, until the consummation of Time, a pillar of beauty and strength, an integral part in the grand temple of Science which is being reared by zealous and loving hands throughout the length and breadth of the entire earth.

And how has the Academy fulfilled the aspirations of her founders? Surely the end is not yet, and more remains to do; but in the four directions which were defined at her origin as her special lines of effort, her advance has certainly been satisfactory. The science of medicine has been cultivated; the division of labor into section work has brought together spirits scientifically akin, and the quality of the material presented to and digested by these sections is of a high order and of steadily increasing excellence.

The character and honor of the profession have been sustained; struggling factions have been dominated by wise counsels, and threatened rupture averted by the exhibition of a broad spirit of professional charity, which has helped to steady and elevate the quality of the professional gentleman without as well as within the academic circle.

The weight of the Academy has always been thrown into the scale to help to raise the standard of medical education, both by the personal effort of the fellows, many of whom have occupied high positions as instructors in the various institutions of learning, and in efforts to help shape legislation toward the accomplishment of the same result upon a larger scale.

That the promotion of the public health has been an object of academic solicitude is witnessed by the present existence of our efficient city Board of Health, which was conceived and formed in the bosom of this Academy in the interest of the citizens of New York.

The workers in the academic field have not been very numerous. The present roll, the largest ever possessed, numbers seven hundred; but in that number may be found the names of nearly every living physician of recognized eminence in the city and immediate neighborhood, and it is difficult to mention any of the illustrious dead of our profession whose names will not be found written upon the roll of the Academy, as well as imprinted upon the memory and in the hearts of those who loved them for their kindliness during life. How shall I mention any without slighting more—Francis, Mott, Stephens, Parker, with his genial smile; Watson, Post, Peaslee, Flint, the good physician, the crystallization of benevolence; Rogers, Bumstead, Buck, Wood, the man of action; Delafield, Clark, Dalton, Anderson, Agnew, the Christian gentleman; Hamilton, Sims, Van Buren, the man of judgment, the man of dignity, a very man, a prince among his peers—but why prolong the list? The good men have been ours, the good men are ours, and their work, the best of it, is fostered by this Academy and turned to good account.

And yet the high success of the few is not the measure of the usefulness of the Academy. These illustrious ones would have glittered without the Academy. Their luster is shed back and illumines the whole body in which they mingled, and multiplies there for the good of the community at large.

We in our scientific struggle and effort are much like children. The vastness of the field belittles our personality. The pretentious few who arrogate to themselves a personal superiority are more than liable to be left behind by the patient seeker after truth, whose path is lightened by the glowing rays of human kindness. Children we are indeed!

"We go forth like children in the morning,
Scattering to spend the summer hours;
One his brow with laurel wreaths adorning,
One to saunter 'mid a grove of flowers,

"One to lose his way and wander, straying,
Till the twilight, frighted and alone,
One, it may be, wearied with his playing,
Wending home his footsteps ere the noon.

"But whatever fate to us is given,
All, when day is done, again shall meet,
And at nightfall, 'neath the stars of heaven,
Shall be gathered at our Father's feet."

To obtain an idea of the relative standing of this Academy we must compare it with other analogous institutions. The Imperial Academy of Science in Vienna and that of France are scientific, not medical, bodies. There is a Royal Academy of Medicine in Belgium, one in Italy, one in Ireland; there is an American Academy of Medicine, one in Kansas, and one in Detroit, but the moderate scope and importance of these various academies relieves them from comparison. Germany is justly proud of her two distinguished associations in Berlin—the Medical Society, under the presidency of Virchow, and the Society for Internal Medicine, under the leadership of Leyden. Illustrious names glitter in each of these constellations, but neither has a building of its own yet, although the Medical Society is now erecting one in company with the Berlin Surgical Society. The library of the Medical Society is of about two thirds the size of our library, while that of the Society for Internal Medicine is insignificant. The great Austrian medical body, the Royal Imperial Society of Physicians in Vienna, justly renowned for the brilliancy of its work and the standing of its members, has no building of its own, and a library of something over eleven thousand volumes—not one third the size of ours, although the society is ten years older. Of the Surgical Society of Paris and other foreign medical associations it may be said that, whatever their distinction, they are not sufficiently analogous bodies to be fairly compared with our Academy.

Two foreign institutions, however, fulfill the conditions: The Academy of Medicine in Paris, and the Royal Medical and Chirurgical Society of London, upon the general plan of which our organization was outlined. As between these two and ourselves at this date, in evidences of material prosperity at least, our Academy holds its own. As to the scientific standing of its members, I shall not draw comparisons. It is enough to say that each of them contains the flower of the medical science and art in the districts in which they are respectively situated. In this country there is no other academy (except the relatively unimportant ones I have mentioned), although there are many notable medical and surgical societies; but the extent of our land and the widespread distribution of its talent make it probable that others will shortly arise.

Comparing, then, some of the main points in the three that I have selected, I may say that each has a building of its own, that of the French Academy being a temporary one. They have the funds and propose constructing a suitable home in the near future.

The Royal Medical and Chirurgical Society, London, founded in 1805, has a membership of 700; the seating-capacity of its largest hall is 300, the area of the hall being 40 by 50 feet, and the foundation area of the building 50 by 200 feet.

The Academy of Medicine, Paris, founded in 1820, has a membership of 110; the seating-capacity of its largest hall is 92, the area of the hall being small, and the foundation area of the building small.

The Academy of Medicine, New York, founded in 1847, has a membership of 700; the seating-capacity of its largest hall is 350, plus extra opened-up space 250 = 600, the area of the hall being 42 by 57 feet, and two extra smaller rooms that may be opened into it; the foundation area is 75 by 100 feet.

All have libraries, but on this point we may seek a wider field for comparison. Our library, which is, I believe, the youngest on the list, and which always gratefully recalls the names of its chief munificent donors—Purple, Dubois, Bumstead, Stone, Jacobi, and many others whom time forbids me to detail—was founded by donations in 1877, and never bought a book until 1879, eleven years ago; yet now, safely housed in a fire-proof home, we are proud in possessing the third place numerically among the medical libraries of America, and the fourth place, as far as I can learn, among the purely medical libraries of the world. In this country the library of the Surgeon-General's Office in Washington, founded in 1865, is the largest; that of the College of Physicians in Philadelphia, more than one hundred years old, the second.

Comparative Table of Medical Libraries.

	Date.	Volumes.	Journals.	Current Journals.	Pamphlets.
Academy of Medicine, Paris.......	1820	130,000	18,000	390	
Surgeon-Gen.'s Office, Washington.	1865	97,886	33,173	Over 700	144,887
College of Physicians, Philadelphia	1789	45,000	......	400	
Academy of Medicine, N. Y.......	1847	40,000	......	400	
Medical and Chirurgical Society, London..........................	1805	36,000	......	150	
Medical Society, Berlin............	1839	About 30,000			
Royal College of Surgeons, Dublin.	....	About 25,000			
Medical Library Assoc., Boston ...	....	19,365	......	381	19,100
New York Hospital Library, N. Y.	....	18,386	......	109	No record kept
Royal Imperial Society of Physicians, Vienna	....	11,069	......	132	
Aberdeen Medical Society, Scotland	....	6,000			

So stands our Academy, and such she is when compared with other analogous institutions in other parts of the world. Considering her age, she need not be ashamed. To fulfill her destiny and consummate her function requires only a continuance of the zeal which has attended her development from the first and a common impulse among her members to work for work's sake.

Here in this hall, now radiant with gracious smiles of approving friends, must be fought out many a desperate scientific battle. Clad in the armor of scientific method and wielding the sword of personal experiment and investigation, contending individuals and contending factions shall battle for the supremacy of their ideas until these walls shall resound with the din of conflict; and from the blows given and taken with such weapons upon such honest armor there shall scintillate and radiate sparks and flashes of truth, living fire, to be added to and heaped upon the burning flame that glows forever upon that common altar of science at which we all worship, a flame to act as a beacon of safety upon the hill-top to encourage those for whom the battle is fought—the patient, suffering victims of disease—and a flame which, within this academic body, shall serve as a cloud of smoke by day and a pillar of fire by night to guide and guard the honest investigator in his never-ending endeavor to teach the truth.

The Library.—Dr. A. Jacobi spoke as follows:

Mr. President, Ladies, and Gentlemen: A circular published by a special committee of this Academy in January, 1888, contained the statement that the New York Academy of Medicine was an incorporated institution then more than forty years old; that its object was the cultivation of medical science and art; that this aim was, among other means, reached by maintaining reading-rooms which furnished nearly all the medical journals of the world, and by collecting a library which was—and is to-day—free to the fellows of the Academy, to the whole medical profession indiscriminately, and to the public at large. Our library was steadily increasing, the capacity of its shelves was strained to the utmost, the building was not fire-proof, and our accumulated treasures were in constant danger. For these reasons we appealed to both the profession and the public for aid in procuring for our meetings and our books a fire-proof building large enough to accommodate two hundred and fifty thousand volumes, spacious enough to afford quarters to all the scientific societies of the city, stately enough to worthily represent the medical profession of the metropolis, and able to testify both the unity and earnestness of that profession and the sympathy of the city, which at the same time is the largest in size and the greatest in commercial power of the continent.

This library of the Academy of Medicine had a slow but steady growth. Thirty-three years ago, when I was admitted to membership, in the presence of the great and good men who then were the guiding stars of the profession—Alexander H. Stephens, Valentine Mott, Horace Green, Gurdon Buck, Edmond R. Peaslee, Edward Delafield, John Francis, John Watson, Ernst Krackowizer—there was no library at all, not even a medical reading-room in the city. It took many years before the Journal Association was organized, which furnished, in a room fitted up for the purpose at No. 64 Madison Avenue, the current medical journals. Other years elapsed until an amalgamation of the Journal Association and the Academy of Medicine, then at No. 12 West Thirty-first Street, was brought about. The accumulation of the annual volumes and a valuable collection of American journals and other books presented by two fellows were the first stock of the library. The journals were paid for by an appropriation of the Academy, which, being small in the beginning, for many years amounted to from three to four thousand dollars annually. More could not be spared. Thus it was that we could not purchase new books. Occasionally a sum was raised by voluntary contributions for the purpose of buying the collection of a deceased member, certain publishers would present us with their publications, authors donate copies of their writings, fellows and others give old and new books, and men interested in special branches of literature furnish a shelfful of special works. That was our library. Thus it grew slowly but steadily. In the course of years our stock of journals became more and more valuable, but what we wanted was a regular supply of new books, for which we had no funds.

On the 2d of October, 1889, when I had the honor of addressing you at the laying of the corner-stone of this edifice, I could refer to the fact that at last we had, for the purchase of new books, a special library fund of ten thousand dollars, half of which was a memorial gift. For the same purpose and in the same spirit the widow of a deceased fellow and vice-president has since presented another special fund of ten thousand dollars, so that one fifth of the sum required for the perpetual endowment of the library is now secured. We are thus approaching the time when New York city will possess a medical library fully adapted to meet its ends. What are they? A large library, besides being the proof of existing culture and accumulated intellectual labor, fulfills its destiny by giving information. Here the medical man with scanty means will find his text-books and monographs to aid him in unraveling the obscurities of a difficult case on hand. He with an ample library of his own will come here to consult rare books, old journals, expensive works. Here all the journals of the world may be consulted from day to day; here those who are engaged in literary pursuits find their historical records. But what a library is most successful in is the inculcation to a great many of the habits of study and research. In that result the public is very much interested. Its safety and dignity require cultured and erudite physicians.

In the same degree that the ethical and intellectual standard of society is raised the community will demand a higher standard of education and culture on the part of its liberal professions, among them the medical. A profession is called liberal in this, that it is generous, charitable, and high-minded; in this, that it liberates its members from ignorance and mental and moral hebetude. But in reality the medical profession of the country has been mostly liberal in this, that it has admitted to its ranks uneducated persons of all colors, sexes, ages, and previous conditions of servitude and illiteracy. Instead of being a truly liberal profession, it has merely been too liberal. In this tendency it has been encouraged, or rather this inferior standard has been forced upon the medical profession, by the public. He who requires manners in his corn cutter, and demands gentleness in his tailor, would often not object to selecting for his family physician and public hygienist a medical adviser with the orthography of a village school, the touch of the corner grocer, and the mental level of a soap-peddler.

From this depth the profession has risen spontaneously by study and its indigenous moral development. Not all of you know, however, to what extent you are under obligation to the medical profession. Fifteen years of incessant agitation were required to finally pass the bill for the establishment of a State Board of Medical Examiners. If in future you are protected against practitioners who have nothing to show besides their diploma granted by a college—no matter of how high or low standing—if the license to practice on you, your parents, and children is made dependent on a second examination, you owe that blessing to the exertions of the medical profession. You might have made the result more striking. If the public had understood its interest you would have worked with us, in behalf of making the State board one, and not three.

Another achievement of the profession which concerns you as much as it does us is the final passing of the bill requiring some degree of general education on the part of every medical student who expects to obtain his medical diploma. Thus a step is made in the direction of rendering the profession more liberal, more cultured, more effective, more fit to take charge of the most sacred offices that can fall to the lot of men. For the holiest and greatest of the objects of human study and care is man. That is so much a part of the creed of the medical profession that you can imagine our painful and contemptuous surprise on learning that a medical man in a public position, but fortunately not one of us, worked all winter to have the law repealed. Fortunately not one of us. For from its very first days this Academy of Medicine has had the elevation of the standard of medical education and culture inscribed on its banner. That object has become such a settled axiom in the mind of every fellow that years ago it was no longer considered necessary to retain it in just as many words among the written laws.

In this tendency you can sustain the efforts of the profession. Insist upon this, that your physician be a gentleman and a scientist, and do something for that purpose yourself; for the State does not contribute to that end. The State is only society organized for certain purposes of co-operation and protection. But medical education, though ever so indispensable for the pursuit of health and happiness and the training of erudite and liberal physicians, has not been recognized among them. But you who do not say to the hungry, the cold, and the naked, "Be ye fed, be ye warmed, be ye clothed," without helping them to food, fire, or clothing, must not expect a profession that always works in the private and public interest of yourself and all those dear to you and yours to be at once learned, erudite, and wise, and refuse aid in its efforts to perfect itself and benefit the commonwealth—aid by pecuniary support, by your social influence, and also by some occasional gentle political pressure on our representatives in Albany.

Our greatest drawback has long been that we had no large class of learned medical men, such as study for study's sake, irrespective of pecuniary gain. Our profession has always consisted of practitioners. The necessities of life have acted upon the medical fraternity as on the community at large, which knew but exceptionally of art, of music, of philosophical refinement so long as the country was still wrestling with the difficulties of the soil, the insufficiency of commerce, and the hampering of poverty. Thus the immense majority of the medical men of the country gloried in being practical, and that only. That there were architects who never laid a brick, mathematicians who never triangulated a mountain, astronomers who never sailed a ship; that no cathedral, no coast survey, no ocean travel could exist without them, that indeed there was no rational practice without an underlying theory, was not considered. The very strongholds of medicine, histology, physiology, the fields of experimental labor and microscopical research, all those branches which you can not immediately exchange for cash, have been neglected among us until lately. Like special laboratories, it is but a short time since great medical libraries have sprung up in Washington, Philadelphia, Boston, and New York. The sooner we admit that we have been far behind Europe in that respect, the better for our scientific future. Indeed, the intellectual maturity of a nation can best be measured by the amount of its original and unpaid research. Europe knows that thoroughly. The intellectual atmosphere of Paris depends greatly on its university. The universities of Germany, with their independent workers and thinkers, have always been the pride of the nation, even in the distress of national poverty and political humiliation. In all of them the principal means of information, through centuries, have been their large libraries. And it will be our library round which the scientific interests of the profession will largely center; but not of the profession only, for the Academy, as it opens its doors to whosoever will attend, without regard to membership, has always held that in order to increase the number of its beneficiaries, it must make its library free. This is so well understood and so highly appreciated that the city has remitted the taxes on its building. A medical library contains of necessity many works and journals of interest to professional men besides medical. The lawyer and physician have many studies in common. There are in the city two societies for the special study of forensic medicine and medical jurisprudence, both of which can be better studied in a medical than in a legal collection. Nor is a medical library such as we have, and mean to increase, a forbidden fruit to the intelligent, well-informed non-professional man or woman. Fortunately, there are a great many good popular works, besides those compiled for an ephemeral market, which treat of physiology, hygiene, statistics, and other topics of universal interest.

Therefore we hold that the profession has a right to look to the public for appreciation and aid. We are not situated as they are in Europe, where educational institutes, as they are controlled, are also supported by the Government, for the democratic spirit of our social and political institutions is opposed to centralization of that kind, and the generosity of the citizens has often been appealed to and hardly ever in vain. There was a time when the Church, centralizing all information, beneficence, and social and political influence, was the only legatee of the rich and benevolent. Now there are a hundred opportunities for liberal outlay. To select the proper ones is an art. I suppose it is a great achievement, which only a few select ones can attain, to make money; but it is a greater art to spend it both generously and profitably in the interest of science and charity. The greatest of all charities, however, is to benefit mankind by leveling the road of science. It is not millions we want. A hundred thousand dollars will clear this temple of science from debt and swell our library fund to a sufficient sum, the interest of which will forever supply us with everything medical and scientific that will appear in any country. Well-to-do ladies and gentlemen will, I hope, not leave this building without making up their minds to contribute their share to the extinction of a debt which the community owes to the profession and to itself, through improved educational facilities. "Let your light so shine before men that they may see your good works."

In conclusion, my friends of the profession may permit an additional word or two on the subject of the library, which is so dear to all of us that it was selected as the subject of a special address to-night. In one of its retired nooks I was sitting a few days ago, contemplating its past and future. I sat wondering how long it would take, and whether any of us older men would see the day, until America, after having given the political world the guiding example of a stationary popular government both conservative and perfectible, led the world of science as it was leading that of politics and, we hope, of healthful social development; wondering also how much this head center of the medical profession and this ever-growing library would contribute to that consummation, which you can hasten by industrious, honorable, and modest work, but by work only.

This library of yours started from small beginnings, like medicine itself. It comprises the labors of thousands of workers assiduously employed through long centuries. That there is one of them that would not be missed is difficult to say, for the co-operation of the many, the gradual development of ideas, the slow changes in experience and doctrines, are of as much importance as the revolutionary and epoch-making labors of the greatest; for no single man stands alone, a law to himself and others. Even genius is the child of its time. No Washington or Lincoln, no Hippocrates or Aristotle, no Virchow or Pasteur, or even Koch—none of these immortal ones is a world by himself and an isolated self-lit sun illuminating and warming the universe. Every one has been raised on the shoulders of his predecessors. By that knowledge it is that, while hope and energy are aroused, patience is taught to the individual and the profession, for, while life is short, science and art are unlimited and eternal; and the comparison of what you furnish yourself with the existing mass of accumulated knowledge inculcates modesty and enhances zealousness. Thus good citizens are made and model scientists. Besides, what to the pupil is the information gathered from the lips of his master, that is for you the collective bequests of all centuries as represented in your library. Thus an intellectual kinship is formed between you the living and the spirit of all eras of history. That is what the study of the history of medicine teaches us, which we have so long neglected.

Pondering over the shelves, you behold abstract scientific treatises, works on practical therapeutics, and books on art and appliances—all of them composing our beloved "medicine." Remove the theoretical works on anatomy, histology and embryology, experimental physiology, physics, and chemistry—what remains? The wreck of the edifice, the foundation of which is torn away.

Look at the shelves holding special literature. There the specialist will comprehend that his doctrine and art are but a minimal trifle when compared with the surrounding wealth, and that the basis and link of all specialties is general medicine. Every one of them was evolved from a minute bud of the great tree, and but few have ever been able to grow up with anything like independence. Thus medical science and art is shown to be an organism of slow, consistent, historical growth. Even the very excrescences—call them fallacies, superstitions, theories, schools, or sects—do not disturb the organic economy. In accordance with this, your very library, the representative and exponent of all medicine, is no longer a mere collection, but a vitalized organism.

That is why there is an atmosphere of solemnity in your large library, for you are standing in the presence of the spirit and soul of all previous ages, each evolving from and connected with its neighbor. That is why a library is to the scientist what the church to the pious, or a museum of a hundred gems like that which a generous fellow presented to our reception-room, to the artist. No consideration of lucre invites you there. While nourishing your minds, you disconnect yourself from the embarrassments of trivial employment and deliver yourselves from the merely terrestrial. In that way the idealism is nurtured that no feeling and thinking man is to be without; idealism, without which no nation can expect to live. When she lost it, even Hellas perished, though she had given birth to Solon, Pericles, Aristides, and Sophocles.

Let me suggest this reflection as a platform, my young colleagues. It is not a dream, but a reality, if you will make it so. By so doing, not only will you elevate your august science and the noblest of all callings, but you will also remain in constant and indissoluble intellectual and moral contact with the most cultured elements of society. If you do, this evening, which is both an anniversary and an inauguration, will prove a blessing for all future time to both the profession and the community. Look upon this edifice not merely as a new and commodious building, but as the visible portal into a new epoch. If you do, you will consecrate this solemn occasion as the Fourth of July of American Medicine.

Remarks by Dr. John S. Billings, of the Army.—Dr. Billings said: I beg to offer very hearty and sincere congratulations to you on this occasion of your formal taking possession of a comfortable and satisfactory home of your own, which I hope will be the beginning of a new era of prosperity and usefulness. And I offer these congratulations and good wishes, not only as an individual warmly interested in the welfare and work of the Academy, but also in behalf of the Medical Department of the Army, very many of whose members have enjoyed your aid and hospitality while on duty in this vicinity.

There are many features about this medical home upon which I might comment, but to me the central and most important feature is its library and reading-rooms. In this assembly hall you may sometimes meet and receive instruction from many of the famous living physicians of New York, but in the library you may at all times counsel with the wise and illustrious of our profession of all times and countries, living and dead, upon whatever subject most interests you. You can always find good company there; they are never in a hurry, never obtrusive, and, while they can not always tell you what you want to know, they can usually tell you something new that you ought to know, provided you question them aright.

Perhaps a very few words about library matters, based on my experience in your Washington branch, the Library of the Surgeon-General's Office, will fatigue you as little as anything else I could say. The kind of literature most needed in a library of this kind is medical journals and transactions, and next to these come statistical reports relating to diseases and deaths in different countries, States, cities, and institutions. The reason for this is that no physician would find it worth while to obtain and preserve in his own library one twentieth part of the periodical and medico-statistical literature which is now in course of publication, and yet it is the papers and figures in these which he most frequently wishes to use to enable him to solve his own problems or to instruct others. Speaking roundly, I may say that every physician should take five journals. Every medical teacher and every specialist should take a dozen. Every Medical Journal Club and small library should take from 25 to 50; every large medical library should take from 150 to 300; and the national collection in each country had better take them all, say 1,000 or more. A physician can almost always procure the current text-books and monographs at a comparatively small expense; but for the journals, transactions, and reports he must largely rely upon some general library.

Not that the current monographs, or the old classics, or even the inaugural theses and dissertations will not be wanted occasionally, or that these should not be collected and preserved as opportunity offers; but that by far the greater portion of the fund, unless it exceeds five thousand dollars a year, had best be devoted to the procuring, binding, and preserving of the periodical literature of medicine, and to the making it promptly accessible to those who wish to use it. Few persons except those who have had some practical experience in library management have any idea of the time and labor required to do all this; it seems to the majority that two persons at most ought to be able to do the work required in a library of thirty or forty thousand volumes receiving two or three hundred journals, and that the money which would be required to pay for additional assistants had much better be used in buying more books.

This, however, is a mistake. In a library of the scope and purpose which that of the New York Academy of Medicine should have, the whole time of one skilled, careful assistant should be exclusively occupied with the periodicals and reports, and it will require his utmost efforts to see that the files of these are kept complete and readily accessible.

Your library ought to receive three hundred current medical journals and at least seventy-five series of transactions and reports, and the task of keeping these complete and in proper order is not a small one. Moreover, such a library as this should obtain and preserve a complete series of documents relating to local medical history. It should have complete files of the reports, scheme of organization, regulations, catalogues, etc., of every medical society, of every hospital, dispensary, or asylum, of every medical school or other institution in its own city, county, and State. Most of these are only to be had by writing for them at the time of their publication; they are commonly said to be very cheap and to be had for the asking, but I think you would be a little surprised, if you tried to get a complete set for one year only, to find how much it had cost for stationary, clerical labor, and postage to accomplish it. Therefore, I say, give your librarian a fair amount of clerical assistance to enable him to do all this, and to keep his catalogue up to date, to keep his accounts in order, to spare ten minutes to hunt up some references for this member, ten more to write to the Washington branch for another member, fifteen more to hunt among the duplicates for material to exchange, etc.

With regard to the library of the Surgeon-General's Office in Washington, which I have referred to as your Washington branch, I have to report that it is in fairly good condition and ready to assist you in the future as it has done in the past. There are some things which it can not do, however. A year or so ago the editor of a leading New York medical journal printed a humorous editorial notice to his subscribers to the effect that he could not undertake to furnish medical bibliography and abstracts of medical literature, and those who wanted them should apply to the librarian of the Surgeon-General's Office, who would supply them for a suitable pecuniary consideration. The publication of this note gave me a very realizing sense of the power of the press as an advertising medium, and also of the existence of an unfilled want among the medical profession of the country. Within ten days after this editorial notice appeared I received a goodly number of letters requesting summaries of the latest and best literature on measles, on the treatment of disease of the spinal cord, on ptomaines, on orthopædic surgery, on the death-rates of civilized countries for the last ten years as compared with those a hundred years ago, etc., with, in each case, an estimate of cost.

Now, I have not the time to do work of this kind on demand, and I do not take pay for what little I can do for my friends who make reasonable requests. There were two or three young physicians in Washington who undertook this kind of work when they had time, charging about a dollar an hour for it; and at times they were kept busy. One of them has gone away, one of them has now so much practice that he only makes abstracts for his own use, and one of them has nearly gone out of the business. No doubt we shall be able to find others in course of time who will take their places and to whom I can refer requests of this kind, which I am always glad to do if possible; but I can not promise that it is always possible. A definite question in medical bibliography, so far as giving references is concerned, we try to answer; if it involves over ten minutes' clerical work in copying I have it done by some one not connected with the library, and this must be paid for; but special researches and the making of abstracts and translations can not be done by the librarian or his assistants, although we will do our best to find persons who can and will do it.

Dr. Andrew, in the last Harveian Oration, says that he regards the *Index Medicus* with special horror. So do I. I wish we could cut it down to one fourth its present dimensions, but we can not. As it is, we omit nearly one third of the matter that fills the pages of three fourths of the medical journals, as being not worth indexing.

At the present rate of increase of printed medical literature, the investigators of fifty years hence are likely to have a hard time of it, and we must do what we can to provide for their needs. The great bulk of such literature is almost useless within ten years after it is printed, the case and operation records having the most permanent value; but there are very few books or pamphlets which are not at some time called for by somebody, and hence there are few which the Academy's librarian can reject, although there are many that he should not seek for.

My business to-night, however, is not to advise but to congratulate, and I beg pardon for having wandered from the point. I have watched for the last ten years with great interest the efforts which have been made here to secure a permanent home, which is so desirable for all medical societies in large cities, and yet which is thus far possessed by so few in this country; and I know something of the struggle it has cost, and how much you are indebted to the energy, perseverance, and tact of a few of your members, and especially of your last three presidents, for the marked success which has been achieved. And as this success, while of prime importance and interest to yourselves, is also a substantial contribution to the means of advancement of scientific and practical medicine everywhere, you have a right, and these men have a right, to the thanks of the medical profession all over the world for this achievement, and in behalf of that profession I offer them.

(*To be concluded.*)

Proceedings of Societies.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

Meeting of September 23, 1890.

The President, Dr. W. W. Parker, in the Chair.

(*Reported by Dr. James N. Ellis, Richmond.*)

Placental Disease as a Cause of Premature Labor.—Dr. John N. Upshur read a paper with this title, in which he said that the sparse literature on placental pathology made a discussion of the lesions of this viscus one of no little difficulty, and it was only by clinical observation and legitimate deductions from such clinical facts that we could arrive at conclusions of a practical nature—these being proved only by the successful issue of treatment founded at best upon theory suggested by these clinical facts. Reflections on this subject were suggested to the writer by a case which was made the text of his article and which was one of great interest and concern to him. The welfare of whole family connections, based upon pecuniary considerations, or the domestic happiness which often centered in fruitful issue, could not be overestimated.

He had been called to see Mrs. B., August 5, 1888, in her third pregnancy, advanced to the fourth month, aged twenty-nine, blonde, health always robust. She had lost two children at the beginning of the seventh month, being attended by one of the leading physicians of this city. Careful inquiry had failed to elicit the history of any imprudence on her part—a jar, a fall, or any tangible cause for the premature labor. The history of both the first and second pregnancies was identical with the third. There was no swelling of hands or feet, no headache, and careful analysis had failed to disclose the presence of albumin, or any functional derangement of any organ whatever.

She was enjoined to be as quiet as possible, avoid going up and down stairs, to keep early hours, and given tincture of the chloride of iron and uterine sedatives, and watched most carefully and anxiously. Soon after entering the sixth month the movements of the child had become each day more feeble and irregular, and she had begun to complain of a weight in the hypogastrium; motions of the fœtus had ceased and labor had come on at the beginning of the seventh month, October 28th. Labor was easy and rapid. The fœtus had cried feebly once or twice; presented a swollen appearance with more or less sclerotic condition of skin, cord empty of blood, placenta firmly adherent, requiring nearly three quarters of an hour to remove it. The uterus had contracted well and firmly. The placenta was very soft, pale, and anæmic—so soft as to drop to pieces by its own weight, or a portion of it.

The patient had become again pregnant early in January, 1889. Carefully reflecting on the condition of the placenta and the history of the two previous pregnancies and deliveries, the speaker had concluded that the cause of the death of the fœtus and of the premature delivery was a latent endometritis, stimulated to active progress by pregnancy and the implantation and development of the placenta—the inflammatory condition extending to the placenta, producing fatty change, cutting off the circulation of the fœtus, and consequent death so soon as the pathological change had progressed far enough. All history of syphilis could be absolutely eliminated, because both parents were exceedingly anxious for issue, and he was confident that he had elicited from the husband the whole truth as to the history of his sexual life. He had once had a mild gonorrhœa previous to marriage—suspicion here, you say, of urethral chancre; but, if so, why did he not have bubo and secondary symptoms at the time, and tertiary symptoms succeeding? None of which he had ever had, nor had he ever had any syphilitic treatment. The woman herself was absolutely above reproach. So soon as the speaker was informed of the occurrence of pregnancy for the fourth time he put the patient upon the most active alterative treatment of the bichloride of mercury, red iodide of mercury, and chloride of gold and sodium, varying these alteratives, and keeping up the treatment for six months. The patient also drank lithia water freely. He desired in this connection to especially commend the chloride of gold and sodium as an alterative. Its action in the dose of one eighth of a grain to one twentieth of a grain in combination with extract of one of the bitter tonics was in many respects similar to that of the iodide of potassium, but he believed it had a special influence in modifying inflammatory conditions of the endometrium, and in his hands had certainly been productive of very great benefit. The patient had progressed beyond the usual danger point and was delivered safely at term. Labor was easy and rapid, child a magnificent specimen and free from every blemish, was now more than a year old, and had been singularly exempt from the usual infantile maladies. The placenta was healthy.

The speaker said that Galabin spoke of inflammation of the decidua which might arise from previous endometritis existing prior to conception, and it might exist in the vera, or reflexa, or serotina. He said the study of inflammation in this situation was difficult, because the cell proliferation of the decidua was analogous to that which took place in the inflammatory process; it was the inflammatory process in the decidua serotina which chiefly affected the placenta. Symptoms of this trouble were soreness and tenderness over the uterine globe, but might be entirely absent. The same author above quoted said that fatty degeneration might be partial, and then the fœtus might be born alive, but that, when "extensive, it may directly kill the fœtus by cutting off the supply of blood." Parvin (*Science of Obstetrics*) spoke of the distinction made by Dr. R. Barnes between fatty degeneration and fatty metamorphosis: "The former begins in the living, the latter is found in the dead tissues." In Cazeaux and Tarnier was found the expression of doubt as to the ability to fix the symptomatology of this lesion, there being only evidence of uterine congestion, manifested in some cases by weight in the lower part of the abdomen and pain in the loins and down the thighs. But these symptoms might be present when other placental lesions existed. There might be apoplexy, sclerosis, syphilitic disease, cancer, etc. It was not pertinent to the subject under discussion to consider these, nor would time or space permit. He had been led to consider the subject from its present standpoint because of the success attending the treatment of repeated premature delivery, based upon the theory enunciated, and because, in the light of such success, it might point the solution to some case of similar difficulty.

Supplementary to his paper and in reply to questions, Dr. Upshur called attention to Galabin's opinion that a peculiar pinkish color of, and the presence of watery gummata in, the placenta was evidence of syphilitic disease of that organ. But he was satisfied of the absence of any syphilitic taint in the case reported. The success of the alterative treatment might also suggest syphilis. But he had seen decided improvement in simple endometritis from the exhibition of the chloride of gold and sodium. He ascribed the good result in the above-cited case principally to the use of that salt. The general health of the patient was good.

Dr. Hugh M. Taylor was reminded of a patient who had lost her first three children at about the eighth month. In all of these pregnancies preventive treatment had been adopted. Subsequently she had had three children; no preventive treatment had been attempted, and all of the last three children had been born alive, strong, and robust. He thought we sometimes credited medicine with alterative influence which it did not deserve.

Dr. Moore did not think that conception could take place in a uterus which at the time of connection was the subject of corporeal endometritis. The leucorrhœa consequent upon such diseased condition effectually impaired the vitality of the spermatozoa, or by its flow washed the ovum from the uterine cavity. But, even if conception took place, it was impossible for gestation to progress safely, and abortion or miscarriage resulted. Where conception took place in a healthy uterus and endometritis subsequently occurred, the pathological changes consequent upon inflammation of the endometrium precluded the possibility of a continuation of pregnancy to term. Where the neck only was involved, conception and delivery at term might occur. But, when both neck and body were diseased, non-conception was the rule. Placental disease proper was frequently secondary. Various morbific conditions of the blood brought about abortions—such as continued or the eruptive fevers and syphilis, especially secondary. In tertiary syphilis the patient frequently went to full term. Congestions and other interferences with the circulation occasioned by flexions or versions produced fatty or amyloid degeneration, or general uterine contraction sufficient to detach the membranes. Retroflexions were especially fruitful in these bad results.

Dr. Upshur did not think that the failure to abort, in the case of his patient, could be ascribed to coincidence as suggested by Dr. Taylor. He referred to other cases of endometritis not connected with pregnancy in his practice that had been benefited by this treatment. A case yielding to iodide of potassium or bichloride of mercury did not necessarily imply syphilitic taint. It was not common for conception to take place where there was an existing endometritis, especially of the cervix; but where there was latent endometritis before marriage it might be developed by pregnancy. This patient had had a dysmenorrhœa before marriage, but had not been treated for it, as conception took place so quickly he did not have the opportunity.

Convulsions following the Ingestion of Unsound Oysters.—Dr. Upshur had been recently called to see a lady of usually robust health. He had found her with decided trismus—spasmodic contraction of both flexor and extensor muscles of hands and of the lower extremities; spasms, both violent and painful, lasting several minutes, and excited by a slight draft or current of air. There had been no wound to give origin to suspicion of traumatic tetanus, and no probability of her having obtained strychnine. But it seemed she had eaten a few raw oysters the day before, when the weather was warm. The convulsions had been accompanied by choleraic symptoms—nausea, vomiting, and purging, but no collapse. He had administered morphine hypodermically and chloroform by inhalation, and had further controlled them by twenty-grain doses of bromide of potassium every two hours. He was satisfied that the convulsions were due to eating unsound oysters.

The President reported a case of convulsions in a mulatto child whom he had relieved of an attack of nausea a month before by the use of carbolic acid. There had been four or five convulsions daily, accompanied by a profuse flow of saliva. Suspecting worms, a vermifuge had been administered with negative result. He had then given an emetic of sulphate of zinc without relief. The fourth day he had been present during the convulsions, which were confined to the upper portion of the body and the upper extremities. He thought them due to ingestion of some insoluble substance. The patient had been rubbed with croton oil along the spine last night, and was better this morning.

Dr. Hoge thought the convulsions due to some preputial trouble.

Angina Pectoris.—Dr. Edward T. Baker reported a case of this affection supposed to be caused by depressed fracture of the skull. He had called to see a white man aged thirty; height, six feet two inches; weight, two hundred and five pounds; very muscular; occupation, striker in a blacksmith-shop. Prior to 1884 (when he had received the injury to his head) he had not seen a day's sickness in his life. This injury had left him with a depression on the left side of his head, on a level with the top of and an inch posterior to the margin of the ear, and one inch and a quarter from the tip of the mastoid process. The depression had measured an inch from the upper to the lower margin, and an inch and a half from the anterior to the posterior margin. He was confined to his bed eight months after receipt of the injury. After he was able to go about he had had an attack of angina pectoris, and had had as many as three a week since that time. Sometimes he would not have one for a month, when they would return with increased severity. He had been treated by a number of doctors without relief. He noticed that he had had more attacks, and they had been much more severe in character, since he had had *la grippe* last March. A stethoscopic examination of his chest had revealed the heart sounds normal, but a little weaker than seemed in keeping with his fine physique and general strength. He had some dyspeptic symptoms, for which elix. lactopeptine was prescribed. The speaker's objects in reporting this case were—

1. To get the opinions and advice of the older members of the Academy in regard to the advisability of using nitrite of amyl in this case. As the patient noticed that when he got very warm, and especially when he lowered his head in stooping, it gave him pain in the back of the head just above the neck, and that he would become unconscious unless the upright position was immediately resumed; as amyl produced about the same effect (vertigo, dizziness, and flushing of the face—in other words, temporary hyperæmia), was it not advisable to use it, and thus substitute unconsciousness due to congestion of the brain for angina pectoris?

2. Could we attribute the angina pectoris to the blow on the head which might have fractured the inner table of the skull, and, by irritation of that portion of brain, so interfered with the action of the pneumogastic nerve as to cause the heart trouble?

3. Could he not be operated on and the depressed bone raised from the brain, and thus relieve both conditions?

He said that he had been repeatedly told by physicians that the wound was too low down to be operated on. He was now taking sodium bromide, compound spirit of ether, and aromatic spirit of ammonia three times daily, and every two hours when threatened with attacks. The speaker further said that the attacks were not more frequent in the recumbent position or at night; mind clear, and that he thought there was chronic congestion or inflammation about the brain.

The President thought it a clear case for operation.

Dr. Upshur had seen a case that, in regard to epilepsy, was similar to Dr. Baker's. The skin over the temple had been cut by a falling timber. No ascertainable depression. Epileptic attacks—two or more daily—had soon followed, dulling mental action. The skull had been trephined, and upon the inner table of the button of bone removed had appeared a deposit of callus, indicating that there had been fracture. There had been no convulsions for a week succeeding operation, but at the end of that time he had fallen forward on his face—dead. Another case was that of an inmate of the Central Lunatic Asylum. He had been struck on his head with an axe in 1862, and a piece of bone had been driven on the brain. The patient had become violently insane, but there had been no epileptic convulsions. He had been trephined by Dr. Hunter McGuire in 1869. He had been perfectly rational upon recovery from the operation, and had taken up the thread of events from the time he was struck, the intervening period being a blank. Subsequently he had died of cerebritis.

Dr. Hugh M. Taylor had recently had a case somewhat similar to that cited by Dr. Baker. A railroad employee had received an injury in the same region, remaining unconscious for thirty-six hours thereafter, when his mind had cleared. There was no fracture of the skull diagnosticated. He had suffered pain over the frontal region; the left eye had been blood-shot and protruded, evidently from some cerebral lesion. He had continued this way for two or three weeks. In six weeks he had begun suffering from vertigo, increased pain, and depression of the cerebral functions, amounting almost to coma. This had been followed by a discharge of pus from the ear and "Cheyne-Stokes" respiration. Abscess of brain, probably due to depression, had been diagnosticated. After consultation with Dr. C. W. P. Brock, it had been decided to trephine, but the patient had died on the night before the day selected for operation. Post-mortem examination had revealed cerebral abscess containing an ounce of pus. The speaker was satisfied that he should have trephined.

Another case of abscess of the brain was reported by Dr. M. D. Hoge, Jr. Two weeks ago he had seen in consultation a workman with suspicious history of previous syphilis. He had been semi-comatose for two days. There was abscess of the skin on the right frontal eminence; left leg paralyzed; bowels and bladder under complete control; respiration accelerated; pulse very quick and small; temperature, 104° F. On account of the feeble and uncertain condition of the heart, it was decided not to trephine. He was put upon drachm doses of potassium iodide every four hours. Sixteen hours later he had died, paralysis having rapidly extended to all four extremities. The skull was trephined at post-mortem at a point selected in discussing operation the day before; dura mater pale and thickened, a smoothly-lined pus cavity lying beneath of the size and shape of a guinea-fowl's egg, occupying the right frontal lobe, and filled with thin, offensive fluid. There was no apparent communication between the external abscess and the interior of the cranium.

Dr. Taylor thought the cerebral abscess might have been secondary, as subpericranial suppuration might find its way into the skull by extension along the venous sinuses leading into the cranium. A cerebral abscess not infrequently occurred as a result of phlebitis of the diploic veins.

The President, in calling attention to the occasional presence of serious brain trouble without significant symptoms, spoke of a patient who had suffered for some days with frontal headache and then had fallen suddenly dead. The post-mortem had revealed an ounce of pus just back of the frontal sinus. Cerebral abscess was a frequent cause of death in children. He had seen a child with bluish boils about the neck which he had opened, and he had been surprised to hear of death from convulsions on the next day. The post-mortem showed extensive softening of the brain, which had evidently been diseased for some time. Another case was that of a ten-year-old boy whose skull had been fractured by a wagon-wheel passing over it, death occurring several weeks subsequently. His mind had been clear to within a few hours of death. The post-mortem had shown disorganization of the whole top of the brain. Query, Where was the seat of intelligence? The speaker then spoke of several cases of atypical typhoid fever that had recently come under his observation in which there had been no heat of the skin, no furred tongue, and no loss of appetite for fluids, attended with emaciation and prostration. One had terminated in fifteen, another in thirty days. In treating typhoid, the points to be guarded were the brain, lungs, and bowels. He gave an abundance of good milk and toddy. He had given a girl one quart of whisky every day for six weeks. He thought it greatly reduced the temperature. For the diarrhœa he gave a mixture of turpentine, kino, paregoric, and bismuth.

Dr. J. W. Henson reported a case of fever which he was unable to classify. There had been at first griping pains over the abdomen which had been somewhat distended, but no tenderness or pain on pressure. Fever had run a regular course of morning remission and evening exacerbation. Morning temperature from 99° F. to 99°+, evening from 100° F. to 100°+; occasionally entire absence of fever for days. Pulse rapid and weak. The patient had suffered greatly at times from cardiac weakness and a sense of impending death. He had been revived by stimulants. There had been slight delirium at times. He had suspected lung trouble, but physical examination had given no evidence thereof. The patient had been treated at first by mercurial purgative, followed by quinine, with a tonic of iron and arsenic and dilute nitro-hydrochloric acid; milk diet, and later whisky in frequently repeated doses. The patient had fattened while in bed. Suspecting local influence as a cause, he had sent her to the country for the month of June. She had menstruated regularly till the beginning of sickness, when she had missed one or two periods. There had been no evidence of scrofula. She was first taken sick last December, and still had fever, but was otherwise apparently well.

Dr. W. S. Gordon had recently been consulted by a lady just from a malarial district where she had been nursing a typhoid patient. She had fever and had been taking large doses of quinine. In each week she would have fever for four days and be free from it the succeeding three. Examination of the lungs had revealed a slight subcrepitant râle at the apex of the right lung. She had no cough, but was emaciated; no history of previous pneumonia. She had been put on creasote and whisky, followed by improvement. She had been sent to the country, and on return there still had been slight fever.

The President was satisfied that phthisis might exist in its earlier stages when there was no cough and no evidence of its presence was furnished by physical signs; and he thought that Dr. Henson's patient had consumption.

Reports on the Progress of Medicine.

HYGIENE.

By S. T. ARMSTRONG, M. D., Ph. D.

Public Disinfecting Chambers.—According to *Le Mercredi médical* of July 30, 1890, the municipal council of Paris has voted for the establishment of disinfecting chambers for the use of Hôtel Dieu, Charité Hospital, Necker Hospital, Laennec Hospital, Broussais Hospital, and the two lying-in clinics. At the Beaujon Hospital the chamber is to be used by the public as well as the institution. The total cost will be 120,947 francs. The advantages that these free disinfecting establishments offer needs no comment.

Disinfection by Gases.—Dr. J. E. Gaillard, in a Paris thesis of 1889, reports a number of experiments on the germicidal action of nitrous-acid and sulphurous-acid gases on pure cultures of different micro-organisms (*Staphylococcus pyogenes aureus*, comma bacillus, bacteria of charbon, bacillus of green diarrhœa, typhoid fever, pneumococcus, etc.), and also on inferior organisms contained in the atmosphere of a room. He concludes:

1. Nitrous-acid gas is a powerful disinfectant, but difficult to employ practically on account of its corrosive action.

2. Sulphurous-acid gas has an evident microbicidal action on germs in the air.

3. Sulphurous-acid gas should be employed to disinfect contaminated localities, in the strength of forty grammes to the cubic metre of air.

4. The action of sulphurous-acid gas is exercised very energetically in the presence of moisture, hence the precept to saturate disinfecting chambers with steam.

Permanent Aeration of Rooms by Open Windows.—Dr. Nicaise, in the *Bulletin de l'Académie de méd.* of the 25th of February, 1890, refers to Raulins's suggestion, in 1752, that tuberculous patients should live in rooms with the windows kept open, and to Dettweiler's application of this method of treatment—with regulated and generous alimentation—at Falkenstein. At this place 132 positive recoveries had been obtained in 1,022 tuberculous patients, while 110 more patients were apparently cured. Nicaise, in order to ascertain the value of this method of treating tuberculosis, experimented for several months on the temperature of the external air and that of a room with a window constantly opened to the southeast, the window blinds being shut at the close of day. He ascertained from minimal temperature readings, taken each day, that the temperature of the room oscillated between ten and fourteen degrees centigrade. The author explained the maintenance of the constant temperature by the stirring up of heat during the day, and its emission during the night, by the walls of the room and the objects that it contained. [In his paper, however, he makes no mention of the germicidal influence exercised by the free sunlight in the room; that is probably as beneficial as the aeration and temperature regulation.]

Cancer of the Stomach in Switzerland.—Dr. H. Hoeberlin, in the *Deutsches Arch. f. klin. Med.*, xliv, p. 461, finds that cancer of the stomach is encountered twice as often in Switzerland as in Berlin or Vienna. Among 2,500 persons, one will die each year from this disease; 1·85 per cent. of all deaths are due to it; and from 1877 to 1886 cancer of the stomach increased in the proportion of 100 to 165 for men, and of 100 to 158 for women. General cancerous diseases are more frequent in Switzerland than in Prussia, Vienna, or England, women being more subject to such diseases than men. Cancer of the stomach bears the proportion to the total mortality from cancer of 31·9 per cent. in women and 51·8 per cent. in men; and in Zurich it is twice as frequent in women as cancer of the uterus, while in Vienna the contrary is true.

The influences of season, profession, city life, country life, or the wealth of the individual, seem to have no effect in preventing the disease. But it does seem that the use of cider and of acid wine increases the predisposition to cancer of the stomach. Heredity seems to have some influence, eight per cent. of the patients observed having had parents die of cancer of the stomach. Possibly a bad condition of the teeth influences the development of gastric carcinoma.

Cancer in Normandy.—Dr. Arnandet, in a paper in *La Normandie médicale*, April, 1890, makes a study of the proportion of deaths from cancer in some cities (Rouen and Havre) and communities in Normandy. He believes that there is an excessive mortality from cancer in certain regions in Normandy, and that the existence of the disease in certain foci and its recurrence in certain houses, as well as its epidemic character, point to the action of a local cause that is external to the organism. The great predominance of cancer of the abdominal viscera over cancerous affections of other localities proves the importance of the ingesta as exciting causes. Water and cider, that is largely used as a beverage in this locality, should be judged as possible causes as well as habitations. Houses where deaths from cancer have occurred are contaminated and should be rigorously disinfected.

An Examination of the Soil of Old Cemeteries.—Dr. L. de Blasi and Dr. G. Russo Travali have, according to the *Revue des sciences médicales* for July, made an examination of the bacteriological characteristics of the air and soil of the old cemeteries of Palermo. They found no greater number of micro-organisms in the air and soil from these places than in other localities in the city. Without counting mucedenes, they found twenty-seven species of schizomycetes, none of which were pathogenic. This observation confounds the prevalent idea of the noxiousness of the soil of old cemeteries.

The Frequency of Tuberculosis in Northern and Southern Countries.—In a general way it has been accepted, says Dr. G. Wykowski in the *Viertelj. f. gericht. Med.*, p. 339, 1890, that the mortality from phthisis pulmonalis is diminished in high northern latitudes and increased in southern countries. Yet in the most northern cities of Finland and Norway the mortality from tuberculosis is from 2·3 to 3·4 in a thousand living inhabitants, while in southern Italy it is but 1·7 in a thousand living; so statistics refute current opinion. If the statistics of the different parishes of Norway are compared, it is evident that the mortality from tuberculosis decreases as we go north; but in Finland an increase in the mortality is noted in the northward movement. In the north of Finland, the population of which is 3 per cent. Laplanders, the mortality from tuberculosis is 2·7 to a thousand living, while in the same latitude in Norway, with a population of 85 per cent. Laplanders, the mortality from tuberculosis is 1·8 to a thousand. The decrease of tuberculosis in the latter country corresponds to the decrease of a mining and industrial population and the large proportion of people living in the open air—the same reason that exists for the difference in the number of cases of tuberculosis in the city and country.

To compare these figures with those of Italy, we find only in northern and central Italy the mortality from tuberculosis reaching 2·3 to a thousand living inhabitants, while in southern Italy it is only 1·7 to a thousand, in Sardinia 1·4, and in Sicily 1·3.

The Prophylaxis of Tuberculosis at Meran.—According to the *Revue des sciences médicales* for July, the municipality of Meran has passed a police regulation forbidding the use of spittoons made of anything else than porcelain, stoneware, or enameled metal, in taverns, restaurants, boarding-houses, or rooms occupied by strangers. The spittoons must contain only pure water, and must be cleansed daily. The use of sawdust in spittoons is prohibited.

The Distribution of Tuberculosis in Switzerland according to Altitude.—Dr. L. Schroeter, in the *Viertelj. f. gericht. Med. und öffentl. Sanit.*, li, 1889, p. 125, has studied the official statistics for eleven years —from 1876 to 1886—having had at his disposal numerous and exact documents. He concludes that in Switzerland the annual mean of deaths caused by pulmonary tuberculosis is 2·31 to a thousand living inhabitants; there are 105 deaths from tuberculosis in a thousand deaths from all causes. The greatest mortality from tuberculosis is in the cantons of Appenzell, Bâle-Ville, and Geneva; the lowest mortality is in Uri, Haut-Unterwald, and Schaffouse.

At an altitude of 200 to 400 metres there are 112 deaths from tuberculosis in a thousand deaths from all causes; at an altitude of from 400 to 700 metres, 105 deaths from tuberculosis in a thousand; at 700 to 900 metres, 106 deaths in a thousand; at 900 to 1,200 metres, 92 deaths in a thousand; above 1,200 metres, 71 deaths in a thousand.

Tuberculosis is endemic in all Switzerland. The mortality from this disease does not decrease either regularly or proportionally in comparison with what is believed of altitude. The mortality is regularly increased as the proportion of the industrial population increases; for equal altitudes, the industrial districts have a greater mortality from tuberculosis than the agricultural districts.

The Influence of the Level of Subsoil Water on the Diffusion of the Typhoid Bacillus.—According to the *Revue des sciences médicales* for July, 1890, Dr. L. de Blasi has recently published at Palermo the results obtained with inoculations of the typhoid bacillus in cylinders of soil, with necessary subsoil water levels. He concludes:

1. That the typhoid bacillus preserves its vitality in the soil at the end of eighty-six days.

2. That it is not diffused in the soil more than ten centimetres above the position in which it is placed.

3. But, in depth, it is found from twenty to thirty centimetres below the site of inoculation, this diffusion depending upon the level of the subsoil water.

The Influence of Sand Filters on the Water of Zurich and Berlin.—According to the *Revue des sciences médicales* for July, Bertschinger has formulated the following conclusions regarding the Zurich water supply:

1. The filtration by sand that is employed at Zurich produces an essential purification of the water of the lake.

2. Normally the filter furnishes water free from germs; yet, some time after filtration, the water will contain a small number of bacteria.

3. The swiftness of filtration (at least within the limits of three to twelve metres a day) has no influence on the character of the water—that is to say, filtered water gives the same results by chemical analysis, and contains an equal number of bacteria, whether filtration has been more or less rapid, the water of the lake yielding all its cryptogamic germs to the superior layer of sand.

4. At first, after cleansing the filter, its action is not normal, and consequently the filtered water then contains a much greater proportion of germs, though the cleansing of the filter does not exercise any appreciable influence on the quality of the filtered water.

5. When the filter ceases acting, the filtered water is for some time richer in bacteria than usual. The multiplication of bacteria is due to the water being undisturbed. But a chemical analysis of the water standing in the filter is in nowise different from that of water fresh from the filter in ordinary working.

6. Neither chemical analysis nor bacteriological examination shows any difference in the action of a filter that is exposed to light and air from that of a covered filter. Each of these filters retains in the same way the bacteria of the unfiltered water.

Dr. C. Fraenkel has made a small filter of sand similar to the large filters that have been proposed for the purification of the water at Berlin. He has demonstrated that this filter allows the ordinary bacteria of water, as well as pathogenic bacteria—such as typhoid fever and cholera bacilli—to pass. The number of micro-organisms that pass through the filter is in proportion to the number of micro-organisms that are in suspension in the water to be filtered. There seems to be some dependence on the rapidity of filtration, the number of micro-organisms increasing when the filtration is rapid. It is at the beginning and end of the experiment that these organisms are most increased; at the beginning, because the filter does not act efficiently, and at the end, because the pressure is considerable, and perhaps because the bacteria are reproduced in the filter during the experiment. Therefore the general confidence in sand for water filtration does not seem to be absolutely justified.

Charbon in Hair-workers and Tanners.—In 1887, says the *Gaz. hebd. des sci. méd.*, a commission was appointed in France to study charbon and the measures that should be employed for disinfecting skins, hair, and horns. The dried hair of cows and horses is imported in large quantities from South America, and it is packed in bales of four to five hundred kilogrammes; as soon as a bale is opened, the hair is picked over by hand. Preliminary steam disinfection of the hair causes such deterioration in its quality that this process can not be employed, consequently the hair-worker runs considerable risk. The risk run by tanners is evident, and from 1878 to 1889, inclusive, forty-nine persons with charbon were admitted into the St. Denis hospital. The conclusions are presented—

1. The manipulation of French hair and skins entails less danger to-day than heretofore.

2. There is very great danger in working in similar imported products.

3. It is necessary to study the question of the disinfection of foreign products utilized in such industries, and it should be referred to the approaching International Congress of Hygiene.

Freire's Yellow-fever Inoculation.—Dr. G. M. Sternberg, in a paper on this subject in the *Journal of the American Medical Association*, July 26, 1890, reviews the statistics published by Freire to support the value of his method of protection from yellow fever by inoculation. Freire maintained that, of 1,183 persons inoculated, 18 died of yellow fever; that is 1 in every 66 vaccinated. Dr. Sternberg, estimating that one half the population (400,000) of Rio de Janeiro had been protected by previous attacks of the disease or long residence in the city, accepts Freire's figures that the total mortality from yellow fever in that city was 2,386, and thus demonstrates that in the susceptible population of 200,000 only 1 in 84 persons died of the disease. Dr. Sternberg concludes that a careful analysis of published results fails to prove that Freire's inoculations have any prophylactic value.

Distinct Species of Comma Bacilli in Cholera.—In the May number of the *Indian Medical Gazette* Surgeon-Major D. D. Cunningham—who recently reported failure to obtain any evidence of the presence of cultivable comma bacilli in the discharges of cholera patients at certain seasons of the year—reports that in certain cases that in general symptoms, character of discharges, and fatality are undoubtedly cholera, he has obtained three very distinct species of comma bacilli. These species are not, as a rule, associated with each other, are independent of the character of the cases from which they are obtained, but are found in all cases coming from the same locality.

Morphologically there seems to be no great difference, but physiologically the rate of growth varies in rapidity; and on potatoes one forms a thick, slimy, creamy stratum, with a smooth, glistening surface and prominent lobulated margins. The color at first is pale-yellowish, becoming gradually primrose, and ultimately strong yellow, at one stage of the growth resembling a stratum of thick pus; the smell is yeasty and vinous. The second species develops as a thin, diffuse stratum, at first white, later brown. It is not shiny or prominent, and the odor is mawkish and choleraic. In the third species the growth is at first grayish-white, later pale buff; it is prominent and dry-looking, and raised in wrinkles and folds.

Microscopically, the first species shows at first distinct commas, but in a short time is composed of micrococcoid bodies with a few enormous commas. The second species has more persistent commas of considerable thickness. In the third species the commas are imbedded in a tough, zooglœar mass that stains deeply with gentian violet.

With cultivations in nutrient broth, nitric and sulphuric acids (as ordinarily employed to develop cholera purple) with the first species produce flocculation that is soon deposited, and the development of the purple tint. In the other species the flocculation is persistent for many hours.

The author believes that the conflicting statements made by European observers regarding the spore formation of Koch's comma bacillus is caused by a different species of this bacillus being observed by the different reporters.

Vital Statistics in France and Germany.—The *Journal of the American Medical Association* of July 26, 1890, makes an interesting comparison of the vital statistics of France and Germany. In 1888, in Germany, there were 376,654 marriages, 1,828,379 births, and 1,209,793 deaths. In that year in France there were 276,848 marriages, 882,639 births, and 837,867 deaths. In Germany the births exceeded the deaths by 618,581, while in France the excess of the former was only 44,772. In considering such statistics it is necessary to remember that, while the area of the two countries is almost the same, yet, notwithstanding the vaunted economy of the French, their country supports a population averaging a little more than 187 to the square mile, while Germany has a population of a fraction over 224 to the square mile. The statistics of some years past show that there is an increase in the birth-rate in Germany and a decrease in France; three children is the average to each family in the latter country, the voluntary limitation of offspring being due to a desire to provide for the future of children.

In Canada the French descendants believe in *crescite et multiplicamini;* according to the *Lyon médical* for August, the Government of the province of Quebec has announced the intention of giving one hundred acres to every head of a family who is father of twelve children. Two farmers have, each, 35 children, one has 34, and one 21, and one gentleman has baptized his thirty-seventh heir. Families of twelve are not rare; so the transplanted French stock retains its vigor.

The Effect of Tropical Countries on the Number of Red Corpuscles and the Hæmoglobin.—Dr. Marestang, in the *Revue de médecine* for June, gives the results of his examinations of the blood of sixteen soldiers, while on a voyage from France to New Caledonia. The men were from twenty to twenty-two years of age, mostly from Breton, at sea for the first time, the voyage occupying three months and a half, of which two and a half were in the tropics. The examinations were made at intervals of fifteen days during the period of the voyage, the percentage of hæmoglobin being estimated by Melassez's hæmochromometer. An average of the examinations shows that in fourteen the number of red globules increased from 500,000 to 1,000,000 to the cubic millimetre, while in two it diminished 120,000 and 228,000 corpuscles. The proportion of hæmoglobin was increased in twelve men from from 1 to 5 per cent., in three men it decreased from 0·5 to 1·5 per cent., and in one the proportion remained stationary.

He abandoned the idea that the increase was due to the sea air, because he found in seventeen convicts who had resided from five to ten years in New Caledonia an average of 5,770,000 red corpuscles and 14·35 per cent. of hæmoglobin, while at Tahiti, in twelve marines that had resided there for two years and three quarters, he found an average of 6,758,000 red corpuscles and 14·2 per cent. of hæmoglobin.

These results demonstrate that in Europeans living in tropical countries, who have not incurred disease, there is an increase of red corpuscles and of hæmoglobin. Maurel, at Guadeloupe, has arrived at the same conclusion regarding the corpuscles.

This increased activity of the hæmatopoietic functions constitutes a simple phenomenon of supply; the excess of corpuscles and of hæmoglobin, the fixative elements for oxygen, has no other end than that of furnishing to the organism the quantity of that gas that is necessary for the normal accomplishment and regulation of its functions—to counterbalance, in another word, the influence of the meteorological elements. Between Europeans living at home and those living in the tropics there is, from a physiological point of view, this difference: that, while with the former N globules and hæmoglobin are required for the absorption of oxygen, with the second class $N + n$ is required.

The Regulation of Prostitution in England and France.—The crusade against the contagious-diseases act in England has resulted in what would have been expected. From 30 to 50 per cent. of troops, quartered in garrison towns, are on the sick list with venereal diseases, while during the enforcement of the law the proportion so affected was very small.

In France, M. Commenge recently stated at a meeting of the Academy of Medicine of Paris that he had collected the statistics of the number of diseased prostitutes found in the decade from 1878 to 1887: First, among women registered by houses or cards; second, among those women that—though registered—were the object of more or less frequent arrests, and constituted a special class under the name of *femmes du dépôt*; third and lastly, among the uninspected, or women that lived by clandestine prostitution.

He had carefully authenticated his figures, and the results obtained were very interesting. The women registered by cards were paid 305,799 visits; there were found 3·12 cases of syphilis in 1,000, and 3·06 in 1,000 were affected with diseases other than syphilis. Of the women registered in houses, there were recorded 503,712 visits; 2·7 cases of syphilis in 1,000 were found in this class, and 2·52 cases in 1,000 of diseases not syphilitic. To the *femmes du dépôt* 76,740 visits were paid; 23·96 persons in 1,000 were syphilitic, and 14·46 persons in 1,000 visits were affected with non-syphilitic diseases. To the uninspected women 2,704 visits were paid; 166 syphilitic persons in 1,000 were found, and 134 in 1,000 had diseases other than syphilis.

These figures demonstrate the greater proportion of syphilis among the uninspected prostitutes, and the danger of the propagation of syphilis is greatest among them. In the language of Dr. Commenge, the poorer women are inspected for those that are diseased, and the latter are not returned to circulation until cured. The unregistered, on the contrary, continue to sow syphilis without anything being done to restrain them.

It is only by the accumulation of such statistics that the fanatical sentiment against the regulation of prostitution can be overcome and the health of innocent women and children protected.

The Regulation of Prostitution.—Dr. Thiry, of Brussels, read a paper on this subject before the International Medical Congress (*Le Mercredi médical*, August 20th), in which he states that prostitution is not only due to moral depravity, but principally to a physiological function that is absolutely dominant at a certain age; whether desirable or undesirable, it is a necessary evil; its excess may be repressed, its dangers may be limited, but it can not be extirpated. He holds, with certain fathers of the Church, that, if it were possible to suppress prostitution, society would be afflicted by libertinism; there would be a reproduction of the syphilitic epidemics of Rome and Naples; there would be an increase of seduction, of illegitimate births, of adultery, of rape, of abortion, etc. This necessary issue of human passion should be under surveillance and regulated, like food, sewers, and collections of filth, to which Parent Duchatelat compares it. Inspection is the sole way to protect prostitutes and those that use them from disease. In certain countries it is ignored on the fallacious theory that it antagonizes liberty and the dignity of women. What is the liberty that exists to the prejudice of public health? And is not the woman always free to abandon her vocation? Another error is to regard prostitution as a crime. The following propositions were submitted: 1. The regulation of prostitution is necessary to restrain the propagation of venereal and syphilitic diseases. 2. Prostitution that attracts attention by the frequenting of streets, promenades, and public places, being the most powerful cause of propagating venereal diseases, should be forbidden. 3. Women that are known to live habitually as prostitutes should be registered and given sanitary visits. 4. The registration and sanitary visits should be authorized under the safeguard of guarantees that should always and everywhere protect the honor and the dignity of the individual. 5. The sanitary visits should be frequently and conveniently made.

Dr. Kaposi, of Vienna, considered there were two ways to combat prostitution: by measures that depended on administrative regulation, and by those of a scientific nature—the first a matter of governmental authority, the second a matter for physicians. The Austrian Government in 1889 adopted measures for the surveillance of acknowledged and clandestine prostitution, and for taking preventive and disciplinary measures against those that communicate syphilis. In all the universities the study of dermatology and syphilography is obligatory, because all physicians may have occasion to decide on the existence of syphilis in domestics. Each prostitute receives a book containing a descriptive list, photograph, and a copy of the laws relating to prostitution and prostitutes. No one under sixteen can be registered, and minors or married women must receive authority from their legal guardians (parents or husband); persons affected with organic or constitutional diseases or deformities can not be registered. Sanitary examinations are made twice a week, by a competent physician, in an appropriate place; all diseased women are put in hospitals, primary syphilitic cases being quarantined for three months, and kept under treatment two years. Clandestine prostitutes are treated in the same way, though they may be treated by their own physician.

Dr. Nesser thought the examination should be made for gonorrhœa and syphilis; while the examination of the genital organs, anus, and mouth was certainly excellent, it was not absolutely reliable. He thought a cervical leucoderma was a certain sign of syphilis; and in one year, at Breslau, he had examined 572 prostitutes, and found the gonococcus in 216 patients in the urethra, uterus, or both.

Dr. Felix, of Bucharest, Dr. Drysdale, of London, Dr. Heinzinger, of Gröningen, and Dr. Crocq, of Brussels, opposed Thiry's conclusions, particularly the limitation of prostitution to a few public houses, branded by Felix and Heinzinger by the name of moral contagion. Felix held that in the future we should instruct, without false modesty, the pupils of higher classes in colleges regarding the dangers to which they were exposed, and instruct them primarily on the various prophylactic measures. The criticism was made that this desideratum was possible, but would not the "professor of coitus" be a veritable innovation for the end of this century?

The Hygiene of the Dissecting-room.—The once familiar dissecting-room, with its wooden floor and plastered walls redolent with the foulness of years of service, its wooden tables supporting cadavers in various stages of decomposition, and an atmosphere that remained a reminiscence during an entire professional career, has in many medical schools given place to composition or tiled floors and wainscot, with excellent ventilation and stone tables that are non-absorbing. In some institutions better methods are in vogue for the preservation of the cadavers; but, in view of the character of much of the material and the possibility of the student acquiring at his work the foundation of constitutional disease, it would seem desirable to pay more attention to the hygiene of the dissecting-room.

In the *Gaz. hebd. de méd. et de chir.* of August 23d the method in use at the Paris School of Medicine is given as follows:

Many cadavers are lost in warm weather in Paris, because the preservative injections are given too late; they arrive at the school in a state of putrefaction for which nothing can be done. This fact is understood when it is remembered that bodies are retained until the last minute in order that they may be reclaimed. If the dead-house attendant would give, at the end of the first twenty-four hours, an injection into the carotid artery of a ten-per-cent. solution of chloride of zinc, not only would it delay putrefaction, but also prevent the discoloration of the skin of the face that makes recognition of the dead sometimes impossible.

On arriving at the dissecting-room, the body apertures are cleaned and washed with a stick, and the entire body is washed.

The body should not be carried by the hands and feet, thus disarranging the position of the muscles, but placed on a movable table of the height of a dissecting-table. The body is numbered with a fatty printing ink that can not be washed off, the number being registered with the name, age, and hospital. In winter the cadaver should remain in a room heated to 20° or 25° C., to soften the fat, that is coagulated by cold and prevents the penetration of the injection.

The best injecting fluid is ten per cent. of phenic acid in glycerin; in winter five per cent. will do. Alcohol may be used with an equal quantity of the glycerin, making the solution more penetrating. For economy a saturated arsenical solution may be added to the injection; two thirds of the ten-per-cent. glycerin with one third of arsenical solution will suffice. The preservative would be better if composed of half a litre of chloride of zinc to half a litre of the arsenical solution; five litres would be required for an ordinary subject. The injection may be made by the carotid, or, better, the aorta, and should be given slowly with moderate pressure, using either a syringe or an elevated receptacle.

The room for storing cadavers should be dry, of constant temperature, and scrupulously clean and free from odor.

Dissected material should be cremated, and in every way the dissemination of micro-organisms from the cadaver to the student be prevented.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Lectures and Addresses.

THE DANGERS OF EXCESSIVE PHYSICAL EXERCISE.

A LECTURE DELIVERED BEFORE THE YOUNG MEN'S CHRISTIAN ASSOCIATION OF WASHINGTON, D. C.

By E. L. TOMPKINS, M. D.,
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GENTLEMEN: The subject before us this evening is one of great importance and interest to all of us—to you as athletes and gymnasts and to me as a member of the medical profession. We are very intimately associated, for when you indulge in such sports to excess you generally come to the physician for assistance. Just here in the beginning of my remarks I do not wish to be understood as one who condemns physical exercise. I greatly approve of it, and congratulated myself on hearing Dr. Rosse's address last Friday evening, but I can not join with Dr. Rosse in "combating the howl against the imaginary danger of athletics set up by some of our shallow and pretentious brethren." I know that so much exercise is fraught with great danger, and some of these "shallow and pretentious brethren" I wish to quote later on. When we speak of excessive physical exercise we are bound to embrace every form of work, such as running, walking, lifting, straining of any kind, gymnastics, foot-ball, base-ball, and the like.

The word exercise, in its physiological sense, means that quantity of activity of every anatomical part of the body which will require that part to perform its function. The popular definition of exercise at the present time is, I think, contraction of the voluntary muscles. That is perfectly proper, if taken with moderation, but nothing seems of interest now unless in competition with some one else. I have endeavored to separate the dangers of excessive exercise into four divisions—viz.: the danger to the brain, to the heart, to the lungs, and muscular system.

We will first take the brain. In looking over the literature on the subject, I have, unfortunately, not been able to gather very much in which the brain was directly affected by physical exercise, except in the gymnasium, where a man hangs by his legs with head downward and has what is commonly called "rush of blood to the head." We very frequently hear a person say he was too tired to sleep; this was probably due to an excessive supply of blood to the brain, and if it goes on for any length of time he will have a disease of the brain called cerebral hyperæmia. One of the worst cases that I have seen lately was that of a man from North Carolina; he was a farmer by occupation and said he did nothing but walk over his farm from daylight to dark, looking after his crops; he was in the habit of going to bed directly after he got his supper—about eight o'clock—never read anything but the Bible occasionally, and had nothing in particular to worry him; and yet he couldn't sleep, and had a bad attack of hyperæmia of the brain, which was probably indirectly brought on by excessive physical exercise. Great mental work and great physical work are entirely incompatible, for the human system has only a certain quantity of nerve force to be expended, and if it is all used up in muscular exercise there will not be left any for the brain. It is all very well for boys and young men to exercise moderately, but when they become men they are intended for something higher and better. Moreover, only a small amount of exercise is needful for health.

Some enthusiasts on the subject of physical culture maintain that it is not only necessary for health, but even for life. Now, it is pretty certain that exercise is not absolutely necessary for life. A physician from Jacksonville, Fla., a friend of mine, tells me of a woman that he knows personally who has been in bed for thirty years, and is likely to live a long time yet. She is not sick, but simply declared she never was going to get out of bed again. I have known of several persons myself that have remained in bed ten and fifteen years. After a while they got tired of staying in bed, and, without any treatment at all, got up and walked. One of them is as healthy to-day as I am and goes everywhere she wants to. Then look at the many prisoners who are closely confined. The majority remain fairly healthy without much exercise. A few fail in health, and I think it is due as much to the mental worry as to the close confinement. All prisoners are confined, one probably as closely as the other, and yet those whose health fails are always spoken of in the newspapers, they are so few.

Second. The effect on the heart is well marked, and a great many physicians have written on the subject. Every one knows how his pulse quickens; he can feel his heart beating through his chest, has palpitation and short breath when he runs up the steps or takes any violent or unusual exercise; these are merely outward symptoms. Dr. F. A. Mahomed, pathologist to St. Mary's Hospital, made observations on Weston, the noted pedestrian, during the last week of his five-hundred-mile walk. By means of a sphygmograph he was enabled to measure the arterial tension every day. He discovered that on the first day Mr. Weston began his walk with a perfectly normal pulse, and during the first two days the tension was somewhat reduced, during the next three days the tension gradually rose, and attained its highest point on the fifth day of his walk. His temperature was reduced simultaneously with the increase of arterial pressure. On the sixth day he took a long rest and sleep, his temperature went up, and the arterial pressure was reduced. After resting thirty-six hours and living well, he regained his normal pulse and temperature. The observations made on the same man by Dr. Flint, of New York, were practically the same. These observations merely went to prove what Dr. Mahomed had stated elsewhere —that exercise produced two important and opposite effects on the circulation, according to the condition of the person under observation. In persons unaccustomed to exercise and not in proper condition it reduces the arterial tension and increases the temperature. This explains how very warm one gets and how freely he perspires, and how soon he becomes exhausted; his heart palpitates and is actually weaker when he is unaccustomed to exercise. "When this is carried to extreme, syncope, from anæmia of the brain, may occur, the brain being robbed of its blood by the unduly increased requirements of the muscles and sudden failure, by paralysis, of the action of the heart. . . . On the other hand, the arterial tension may be increased. There are several theories for the cause of this. One is that the impaired nutritive power in the tissues interferes with what has been called the chemico-vital capillary power and causes capillary obstruction. Another theory is that there is contraction of the arterioles, due to irritation of their vaso-motor nerves by an irritable and exhausted brain. . . . And still a third cause is that the heart is excited to a degree above that required for the effectual circulation of the blood, the influx of blood into the vessels being in excess of the afflux by the capillaries, thus raising the tension." This condition was well marked in Taylor, one of the competitors of Weston, and slightly so in Weston, who was probably in better training. Variation of tension in this direction is accompanied by reduction of temperature. It increases the work required from the heart, and failure of that organ to meet the strain thrown upon it gives rise to dilatation. This is known by a number of symptoms, the chief ones of which are breathlessness, oppression at the præcordia, vertigo, coldness of the extremities and reduction of the temperature of the body generally, pallor and anxiety of the face, dilatation of the pupil, smallness and irregularity of the pulse, and irregularity and shallowness of respiration." Very often we hear of some old gentleman, or even lady, who drops dead after some unusual exercise, such as going up the steps fast or running after a street-car. The majority of street-car companies have cars enough which follow one another closely, and if we are not in time for one we should wait calmly for the next and not run such enormous risks; but such is the desire with every one at the present time to get ahead of somebody else that he can not wait. Dr. Hammond has collected seventy cases of death during the last ten years of men running after a street-car and dropping dead in the street. These deaths were purely due to the inability of the heart to meet the strain required of it. Some of you might say that these men had heart disease of some sort before, and that their deaths were due to that, and they probably did; but that only goes to prove that not every one is in the proper condition to take violent exercise of any sort. I think every one who wishes to indulge in athletics should be thoroughly examined by a physician and pronounced perfectly sound beforehand, and even then there should be a competent instructor who should tell him what to begin with, just how long he should exercise, and not let him overtax his strength in any way. Lifting heavy weights is not the best way to get strong, and yet a great many young men think that in order to increase the size of the muscles and be considered stronger than any one else they must lift some weight far too heavy for them. I know a man, about twenty-four years old, in Atlanta, Ga., who was really quite strong, but he offered, for a wager, to lift five hundred pounds from the floor and put it on a table. While he was straining with this weight he felt a very sharp pain in his back; that pain has never left him, although it has been about two years, but his spinal column has become curved in two places; he also has a disease of the spine called Pott's disease; his spinal cord has also become affected, which has brought on paralysis of both legs, and he has been in bed several months now, and the probability of his ever getting well is rather uncertain. Dr. Hammond told me of a case that came under his observation. A man tried to raise a window-sash which would not go up; he overstrained himself, felt severe pain in his back, and was paralyzed in both legs immediately.

The cases of hernia that are caused by lifting and jumping are numerous, and I will speak of them later. Dr. Morgan, in his book called *University Oars*, relates some very interesting cases. He was confident that the bad results of excessive exercise in rowing frequently were never heard of, so he took the names of 294 who rowed in the inter-university race in a given time, and wrote letters to them asking them to give accounts of themselves as to whether they suffered from any disease that could be attributed to rowing. He got replies from seventeen of them, some written by themselves and some by their friends or relatives. The following are extracts from their letters: A said that while rowing in the college races he suffered from bad cold and pain at the angle of his chest. In spite of this, he continued to row, and it gradually passed off. The following spring he had a chill while traveling in a stage coach, his breathing became affected, and an attack of inflammation of the right lung ensued. This illness was protracted, and he was assured by his physician that he had permanent induration of the top of the right lung, which had set in when he was at college. In this case, if the injury did not result from overexertion in the boat-race, it was due to the fact that such exertion was undertaken at a time when from indisposition the man was not in a fit state to row. The next case is that of B, who, in referring to his own case, says: "I am unfortunately an illustration of the evils which may be induced by overexercise. I am forty-one years of age and quite obsolete from an hypertrophied heart, which has gone on to dilatation and its consequences." He then goes on to tell how he was in the habit of spending his time then, which does not concern us in this paper. The next is C. His report is as follows: "About a week before the race I felt a pain in my left arm as if I had gotten rheumatism, and it became rather stiff until after the race, and then severe inflammation set in in the elbow joint, followed by abscesses, and, after three months in bed, pieces of bone came away, and I had the elbow joint excised, and the arm is still stiff." His friend confirmed his remarks by stating that he was sure that that particular race did not bring on all the inflammation that ensued, but that he had had no rest from hard labor for two years, besides going in for every race that took place, and consequently entered upon the training for this big race in an already exhausted state. Dr. Morgan then quotes the cases of six persons that have died—five from consumption and one from heart disease—and their nearest relatives wrote that more or less grave suspicions were entertained that the diseases that carried them off were originally induced by their overexerting themselves in rowing during their college days. One of them, D, died soon after of consumption. It was said of him that his illness and delicate health were supposed certainly to have arisen originally from the bursting of a blood-vessel, through his exertions in rowing, either in the practice for the inter-university race or in the race itself. One of his fellow-oarsmen said: "D was a very fine oar, but he always gave me the idea of being an unsound man; he was always pallid and looked ghastly after a long and severe turn. I often used to think him likely to break down in training." The next case was that of E, who died of consumption. One of his relatives, in speaking of him, said that he had not died until long after he had given up rowing, but he had never doubted that his failure of health and early death at the age of twenty-nine years were due to boat racing, as no other member of his family had broken down in the same way. Another oarsman, who died of some affection of the chest which was not stated, was spoken of by his father as follows: "I could not feel assured that the excessive training and racing could be undertaken safely by a growing and undeveloped constitution, not robust, though elastic and strong." Another person, G, died of consumption. One of his friends writes that his physique was not such as to stand the wear and tear of these contests. His exertions were of a more than ordinarily trying character, for he had participated in many severe races both on the Thames and at Henley, and he was a man, almost of all men, the least likely to spare himself. The eighth case was that of H. He also died of consumption in a few years after the race. It was not known whether he died from overexertion or not. J was injured by rowing. He was found dead in his bed some time after he had stopped rowing. His friends said he was an enthusiast in the sport, and they had often seen him exhausted. All thought his exertions brought on his death. K recounts his case as follows: "I rowed in a great many races—in several while yet a boy at school. When I rowed at Putney I was twenty years of age. I experienced soon after this severe pain in the region of the heart and was thoroughly done up, and was forbidden to walk up hills and told that unless I was very careful I should never get over it. However, I did take care of myself, and have been recovering health and strength ever since. Though I was never incapacitated from ordinary employments, still I was prevented from engaging in any violent exercise from the certainty with which it brought on the old pain at the apex of the heart." He then goes on to relate some of his occupations and to speak of his children, and finally concludes thus: "At the same time the conclusion I should have come to in my own case is that I overexerted myself when too young, and, had I begun when I left off growing or a year or two later, I should not have experienced any evil effects." Another man who overworked his strength was L. In speaking of his health he uses these words: "I have for the last three years suffered much from having overexerted myself, and have only just begun to go up hill again. I should not think of attributing my ill-health to the university race when I know what a very small proportion the energy expended, and the exhaustion consequent on it, can bear to that due to the combined effect of other races in which I have rowed and other forms of violent exercise in which I have overtaxed my strength."

M also would appear to have done too much. His brother says of him: "I have no doubt M. seriously injured his health by overexertion in rowing and running; he was an enthusiast in everything he undertook and imagined nothing could hurt him, but soon after leaving the university he fell into bad health, and died some eighteen years after the race." He attributes his ill-health to overexertion. It was the continuance for too great a length of time of boat-racing that did him so much injury.

N is also believed to have suffered. One of his relatives writes: "After the university race he fainted away, and it was two hours before they could restore him. It was always thought that the part he took in the race injured a small vessel at the heart; previous to that he was always a strong, muscular man. Eleven years after he was suddenly taken sick, and died in a few days."

O speaks of his health in the following manner: "When I went to the university I was healthy and strong, and my weight was a little over twelve stone. I began rowing at once in my college boat and also in the university crew, both at Putney and Henley. I lost almost a stone in weight during my rowing career, but did not feel any ill effects until after my last race, when I became very weak, with pain in my side. One doctor whom I consulted attributed these symptoms to the overexertion and hard training I had undergone, but considered there was no serious mischief. I recovered from this attack in time, and since then have enjoyed fairly good health, though I have gradually lost weight and become very weak. Three years ago, after taking a little more exercise than usual, I brought up a great quantity of blood. This, my medical man said, came from my left lung." He then states that he had no return of hæmorrhage until the following spring, when he had another attack of bleeding from his lung. After that he had great difficulty in breathing, and was much weaker than before, although he had no more hæmorrhages.

The next three persons, P, Q, and R, in giving accounts of themselves, declare that they were in good health as long as they kept up such violent exercise, and only suffered from their respective troubles after they had taken up a sedentary mode of living. The question might be raised, though, whether or not these troubles were not the result of such excessive exercise, and probably would have appeared much sooner if they had not quit and commenced a sedentary life. I have consumed rather more time with the subject of boat-rowing than I intended, but I wished to show particularly the bad effects on the heart and lungs that this kind of exercise produces when it is carried to excess.

Dr. Charles W. Cathcart, in his article on Physical Exercise: its Use and Abuse, which appeared in *Health Lectures* and which is published by the Edinburgh Health Society, goes quite extensively into the subject. He enumerates quite a number of accidents—such as fractures, especially of the collar-bone, dislocations, sprains, and other injuries that take place during the different games, especially foot ball—and while he encourages these games, if taken moderately and by persons who are fitted for such exertion, he says that overgrown lads should be careful how they exercise violently, as they are particularly apt to suffer.

But I wish to quote him *verbatim* in his remarks relating to brain work and physical exercise: "Only one other point occurs to me as specially deserving our attention just now, and that is the relation of brain work to exercise. It must be the experience of most men that the fullest amount of brain work and of muscular exertion can not be carried on simultaneously without injury to whoever is bold enough to try the experiment; only a certain amount of nervous energy is available in the system. There is a reserve fund of nervous energy for explosive purposes, and when this is once exhausted it is rarely got back. This may be expended either chiefly in muscle work or chiefly in brain work, or in a proportionate combination of both, but not in the fullest possible amount of both at the same time. Therefore, when extra brain work is called for, we should not expect from our bodies the full amount of muscular exertion that they are capable of. Sufficient be it for the time if we get enough exercise to keep us in active health, and, when we again have an opportunity, we can very soon bring our muscles up to their wonted standard. But, since this preponderance of brain work in our modern life is so frequently unavoidable, it becomes all the more necessary that, when the frame is still in its plastic condition, it should be stamped with the best possible physical impressions. The conditions necessary to attain this are not incompatible with sound mental training and earnest brain work, but it can not go along with that mental worry and and labor which ought only to be found, if at all, among those who have reached maturity and have passed into the active duties of life."

He adds further on: "I must, however, add a word of caution to those who, in after-life, are unfortunately obliged to follow sedentary occupations. They should be careful how they return to their former activity. If caution be not used, the exercise will do them more harm than good, so that it behooves us to be as careful as we can, always to begin gently and increase by degrees."

It is very certain that great mental work and great muscular work are incompatible; and I remember well, when I was a student at the University of Virginia, that those students who did more hard study than any of the others found that a brisk walk of about two miles a day gave them plenty of exercise to keep them in health, but did not fatigue them so much as to prevent them from studying; and those others who took leading parts in base-ball, boat-rowing, foot-ball, and all kinds of athletics, were, with a few exceptions, not the hard students, but rather the reverse. In fact, a great many young men enter colleges, such as Harvard, Yale, and Princeton, apparently only to be members of the base-ball club or foot-ball club or boat crew, and seem to think that a greater honor than to graduate in their studies. I know of a young man who went to the university just to join the base-ball club. Professor Edward Parkes has calculated that walking one mile on the level, unloaded, is equal to lifting 17·67 tons one foot; but if loaded with a knapsack weighing sixty pounds, the work done is equivalent to lifting 24·75 tons one foot.

Moderate labor in the open air is the most healthy for the average man who engages in it. Now, according to Professor Parkes, the daily work performed by him will probably average from 250 to 350 tons lifted one foot, which will be equivalent to a walk of nine miles, and a healthy adult can take this without incurring risks of over-fatigue; but allowance must be made for the other exertion incurred by the ordinary business of life, which in many cases would cause a considerable reduction. We all know that every action of the living body is attended by chemical changes in the composition of its tissues, and that force is liberated by such changes, either in the form of heat or motion. The heat, of course, maintains the temperature of the body. This force is generated by the combination of the food taken into the body and the oxygen which is taken in while breathing. Carbonic-acid gas is evolved by the action of the oxygen on the carbon, one of the food products; therefore we breathe in oxygen all the time and breathe out carbonic-acid gas.

The more work or muscular exercise that is performed, the faster and necessarily shorter the respirations. The physiological effects produced by muscular exercise are increased action of the lungs and heart.

Professor Parkes has given a concise table showing the effects exercise has on the absorption of oxygen and the evolution of carbonic-acid gas, which shows that on a "work day" eight ounces and a half of oxygen were absorbed in excess of that on a "rest day," and that thirteen ounces in excess of carbonic acid were evolved on the work day, although the so-called "work day" included a period of rest, the work being done only during working hours and was not excessive.

Therefore the more work, the greater the amount of oxygen required, and therefore the greater number of respirations, and with it necessarily the greater number of expansions and contractions of the chest. It has been proved that the faster the respirations, the smaller is the quantity of carbonic acid exhaled at each expiration. Now, the average number of respirations in the adult is about eighteen to twenty per minute; but with violent exercise, such as boat-rowing, running, foot-ball, and so on, they are greatly increased. It might be said that although the quantity of carbonic acid is smaller in each respiration, if the number of respirations should be large enough, it would accomplish the same result by exhaling all the carbonic acid. This would be true if the power of maintaining strong and rapid respirations continued; but soon the chest muscles of respiration give out and the inhalation and absorption of oxygen diminish, and carbonic acid accumulates in the blood, producing what is called "out of breath." The man is practically poisoned by carbonic-acid gas. Many instances of this are seen in the running and rowing races, where the man falls flat on his face, and perhaps faints, just as he almost reaches the goal. He, as a rule, soon recovers if allowed to remain perfectly still and get a few long breaths. Oxygen is rapidly taken in, and the blood that was made impure by the accumulation of carbonic acid is properly aerated. It is claimed, and rightly so, that exercise improves a weak heart and also weak lungs; but this is true when exercise is taken moderately and regularly, so that the arteries can get accustomed to the increased action of the heart. In excessive exercise the action of the heart is increased much more and has to send an extra amount of blood to all parts of the body, so that the arteries, which are taken so suddenly, do not allow the blood to pass through, and there is a blockage. The impure blood, laden with carbonic acid and coming from the parts of the body in action, is not sent on quickly enough to the lungs to be replenished.

This blockage up of the blood does not take place alone in the arteries going to the lungs, but throughout the entire body; so, unless we begin very gradually and with due preparation, instead of benefit, much harm may be done which is permanent.

I am told that only a few nights ago one of your number fainted just after going through some sort of violent exercise. Instead of quickening the vital changes, they are stopped almost entirely, and the blood may accumulate in the heart and produce dilatation, which is a very serious disease. Therefore it is very dangerous for men who lead sedentary lives to start out suddenly in the summer on their vacations to climb mountains, row boats, run or walk long distances, and they are frequently worse off after their vacation than before.

Moderate exercise increases the appetite; but no doubt you have frequently heard people say they were too tired to eat. It is probably due to the fact that the bodily powers are fatigued and there is impairment in the power of being able to take food. If this continues, the health is seriously affected. It is said that the exhaustion of muscles from overwork is due principally to want of oxygen to burn the carbon elements which supply their force, and also from the accumulation of the products of combustion. This of course results from the heart and lungs refusing to work vigorously enough. The advocates of gymnastics maintain that the muscles are enlarged, the chest expanded, the heart and lungs strengthened, the appetite increased, and good health generally maintained. That is true enough; but if the muscle is exhausted its nutrition is seriously impaired, which may not be recovered from for many days. Instances of this are not merely loss of power, but peculiar, irregular pains and cramps, tremors and contractions. It is well known that if the leg of a frog is amputated and a current of electricity applied to the muscle itself, it will contract immediately, and if the stimulus be applied again, it will contract the second time, and continue on in this way, provided the stimulus is not applied too often and too rapidly. If it is, the muscle soon begins to contract less each time, until it is no longer affected by the electricity; but if, even in that condition, the stimulus be applied to the sciatic nerve, it will immediately contract as before, until finally the muscle is exhausted and will no longer respond to the stimulus, even when applied to the nerve itself. And so in health, during excessive exercise, the brain is the stimulus to the nerve, but soon the muscle is exhausted if made to work too long and too fast. Not only that; although exercise increases the size of the muscles, then if the exercise is continued too severely and for too long a time, it is not only exhausted, but begins to atrophy or waste away. Such cases are sometimes seen in the ballet dancers. Some of the most active men sometimes have a disease called progressive muscular atrophy—a disease which, if not absolutely incurable, is rarely cured. We had such a case as that only a short while ago at the Sanitarium. The man was of tremendous frame and had led a very active life. He used to brag that he could jump off a train moving at the rate of twenty-five to thirty miles an hour and not feel it. He couldn't imagine how it was that his muscles were all wasting away. These "living skeletons" that you see in dime museums are generally victims of progressive muscular atrophy or another disease which resembles it in some respects, called anterior polio-myelitis. Virchow has taught that a disease called valvular endocarditis is more common in the left side of the heart than the right, in consequence of the great muscular force of the left ventricle, so that when aortic disease has led to hypertrophy of the left ventricle, changes in the mitral valves become frequent, and the increased force with which the mitral valves are closed induces those nutritive changes called chronic endocarditis.

And, as Fothergill says in his interesting paper, styled Strain in its Relation to the Circulatory Organs, in connection with heart disease, that which is more interesting and of greater importance is the change in the aortic valves themselves and the causes of that change. Placed at the base of the aortic column, they are closed by the aortic systole on the arterial recoil. Every increase in arterial tension will close the semilunar valves with greater force, and this causes valvular disease of the heart. He goes on to say that "aortic valvulitis is met with under two totally different circumstances—(1) in the gouty individual with chronic kidney trouble, (2) in the young and robust who pursue certain forms of labor. At first sight there seems but little in common between the action of gout poison and that of the laborer; still the morbid processes induced by these two totally different causes are, apparently, not only identical, but even the manner of their causation is the same. In both cases the aortic valves are exposed to violent closure from increased arterial recoil, and in both cases valvulitis from strain results." All of you who know anything about anatomy will remember how the arteries run along close to the muscles, sometimes within the muscle, or under it, or between it and a bone, or over or under a tendon. When an athlete is straining every muscle in the gymnasium, those muscles are in a state of contraction, in which condition they are hard and press on different arteries and obstruct the circulation. The heart, continuing to pump away with increased vigor, distends the arteries, and of course there is an augmented recoil; the heart first becomes hypertrophied, and then follows valvular disease of the heart. You have all seen how the veins stand out on the wrists of men in the gymnasium when they are trying to perform some difficult feat which requires great muscular force. It is because the circulation is obstructed. A person who is suffering from a mitral disease of the heart frequently causes an atheromatous condition of the pulmonary artery and its branches. Thus we have valvulitis and atheroma of the arteries at the same time, which is seen frequently. The causal association between atheroma and strain has been shown by Dr. Clifford Allbutt and Dr.

Moxon. The latter says (1) that what is called atheroma of arteries is a subinflammation of various degrees, of which the lower degrees end in fatty degeneration of the coats, along with the inflammatory products, and (2) that the determining cause of the occurrence of this change is mechanical strain.

Dr. Fothergill, at the end of his article, gives a *résumé* of his opinions, which I wish to quote word for word: "1. Changes in the right heart are induced by increased strain when the mitral valve is diseased. 2. Mitral valvulitis often results from aortic disease, in consequence of the mitral valve being forcibly closed by a hypertrophied ventricle. 3. Aortic valvulitis, as well as atheroma, is intimately associated with mechanical strain. 4. Certain dyscrasial conditions in which these affections are common merely favor the occurrence of such changes. 5. Women are much less subject to aortic valvulitis than men are, and this is due to their pursuits rather than to their sex. 6. The importance of mechanical strain in the production of disease in the circulatory organs is scarcely yet sufficiently appreciated."

Hewetson says: "I hold that nowadays few men can train hard for athletics and at the same time excel in mental study without overstraining their physical or nervous power. This evil of attempting to combine the two is undoubtedly gaining ground in the present day." He reports two cases that came under his observation. One was that of a man who was running in a severe contest, felt sudden pain in the chest, followed by exhaustion; on examination, there was found organic disease of the heart. The other was that of a leading athlete who had embolism at the base of the brain.

I remember a person that I saw in one of the hospitals of New York. His history was as follows: He had had previously a severe attack of inflammatory rheumatism, which had caused organic heart disease. During some unusual exertion, one of the little vegetations which grew on the valves of the heart was washed off and carried along with the current of blood until it reached the capillaries, where it could not proceed farther. This is what is called cerebral embolism. In this case it produced paralysis of one side of the face and tongue, so that he could not articulate distinctly and could eat with difficulty. Also one whole side of his body was paralyzed.

Dr. Edward Smith read a paper before the Royal Medical and Chirurgical Society on The Influence of Labor on the Treadmill on the Pulse and Respiration. He calculated the quantity of air respired in the sitting position and then on the treadmill. During the exertion the quantity of air inspired was increased more than four-fold rate, the respiration was increased two thirds, the depth of inspiration two and a half, and the rate of pulsation two and a half times. He then proceeded to consider the effect of this kind of exercise on the system, and showed that the excessive exercise of the heart and lungs must lead to phthisis, asthma, emphysema, congestion of various organs, with a thinning or thickening of the walls of the heart, and with persons of diminished vital capacity of the lungs and a weak heart the effect must be sooner serious.

I believe that cattle-men have quit driving their cattle and sheep long distances to market on account of the different lung troubles they develop on the way simply from being overdriven. A friend of mine in Texas, who is a large cattle-raiser, told me that he had stopped altogether, and always sent them to Chicago on trains; that it paid much better in the end.

Dr. Stork, in the *Edinburgh Medical and Surgical Journal*, reports a very interesting case of what he calls overdriving in the human subject. A man was driving some cattle that broke and ran. He ran after them, and it was a long time before he succeeded in getting them together again. By that time, though, he was thoroughly exhausted himself; he had pain in his chest, began to cough and spit up bloody sputum, had great difficulty in breathing, pulse very fast, and high temperature—in fact, all the symptoms of inflammation of the lungs. The overdriving in this case is analogous to racing and rowing. I wish to say just a few words in regard to hernia, or rupture. There are cases, of course, that are congenital, and a few are caused by other things than strain, but the great majority of cases come from overstraining, particularly that of lifting heavy weights. In looking over works on hernia, you will find that the majority of cases belong to the laboring class, and that men have it more frequently than women. I knew a young physician in New York who was lifting a heavy woman from the operating-table; he felt a sudden pain in the inguinal region, which continued, and he soon found that he had a hernia. There are certain games that are particularly apt to cause hernia; one is called the "tug-of-war," and you, as gymnasts, of course know what it is. The cleats that were used for placing the feet against, in order to pull harder without slipping, I believe are being done away with.

There used to be a lifting-machine in most of the gymnasiums called the health-lift. A very competent instructor in athletics told me that that machine had ruptured more men than any other one thing that he knew of. It belongs to me in this paper only to point out the dangers of excessive exercise, but I do not think it would be out of place for me to say a word or two in favor of this particular Young Men's Christian Association. As I understand it, it is intended to bring together young men who perform a Christian work by doing good to others and at the same time elevate themselves to what is noblest and best in this life. The gymnasium is only one feature of the association, and it seems to me to be very complete. You have a good instructor, and I don't see how, under his guidance, you can have many accidents. I have seen Mr. Sims go through what he calls the "dumb-bell body exercise," and it gives thorough exercise to every muscle in the body. He tells me that he never uses a dumb-bell in this particular exercise that weighs more than two pounds, and that the Indian clubs that are swung should weigh only four or five pounds, instead of twenty-five and thirty, that I have seen in other gymnasiums. And now, gentlemen, I would like to call your attention to the aged couple, both of whom were centenarians, who were found by a Boston reporter at meridian sun resting under the shade of one of the grand oaks of Massachusetts. Of course he interviewed them as to the cause of their longevity. No doubt, gentlemen, he went there for that purpose. The reply he received was significant: "We led a peaceful life and spent a great part of our time in the open air."

Gentlemen of the Young Men's Christian Association, a peaceful life with moderate exercise in the open air will surely be conducive to health and happiness.

Note.—Since writing the foregoing I have clipped the following from the Pittsburgh *Dispatch*, which speaks for itself: "Of the thirty-two all-round athletes in a New York club of five years ago, three are dead of consumption, five have to wear trusses, four or five are lop-shouldered, and three have catarrh and partial deafness. As far as general health and longevity go, the dry-goods clerk outdoes the athlete."

THERAPEUTIC PRINCIPLES GOVERNING THE SELECTION OF CARDIAC MEDICAMENTS.

TWO LECTURES DELIVERED IN THE COURSE ON THERAPEUTICS AT THE MEDICAL DEPARTMENT OF DARTMOUTH COLLEGE, *October, 1890.*

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LECTURE I.

GENTLEMEN: Having studied the powers of the principal agencies employed to influence therapeutically the heart and circulation, we shall now devote two lectures to the study of the more important principles which should guide us in the application of these agencies to the treatment of morbid conditions: whether with a view to bring about recovery, or merely to prolong life or promote comfort. The first lecture will be more especially concerned with laying the foundations for our subsequent study; and that these may be sufficiently broad and deep, it will be necessary to treat of matters which at first sight may seem remote from our immediate theme. But, as I have throughout all our studies endeavored to show, the observations of the physician must be comprehensive. Not that in seeking far afield he should neglect what lies close at hand, but neither must he so contract his gaze and converge his eyes that the tip of his nose shall fill his farthest horizon.

The interdependence of vital functions is so great that no part of the body can be successfully treated, when diseased, without due consideration of its relations with all other parts and with the body as a whole. At the bedside quick observation and prompt decision are often demanded. There is no time for elaborate reasoning. But, in order that we may be prepared for the emergencies of practice, we must in the lecture-room and study fortify ourselves with knowledge. We must here ponder our facts and set in order our thoughts, so that we may have ready for use a store of matured conclusions.

Therefore I crave your patient attention while I pass in review some familiar facts, in order that by repetition they may become impressed upon our minds, and that, by grouping them about a new center, a new phase of their important relations may be made clear.

The value of rest, local and general, in the treatment of diseases of the heart or other pathological conditions affecting the circulation was treated at length in the earlier portion of our course, when hygienic therapeutics was the subject of consideration. Still, a few words in reminder of certain general principles may not be inappropriate at this time.

We have seen it to be an absolute rule, not only in biology but throughout all nature—a rule to which there can be no exception, because it depends upon the very constitution of nature—that the period of repose is the period of repair; the period of activity is the period of waste. Rest means construction, upbuilding; a coming together of matter, with storing up of energy. Action means destruction, downthrowing; a tearing apart of matter with liberation of energy.

Throughout nature we have that continual rhythmic alternation of attraction, repulsion; construction, destruction; upbuilding, downthrowing; which in the study of life-processes we call the *metabolic rhythm*, applying to its two phases the Greek terms, *anabolism* and *catabolism.*

Upon the preservation of this rhythm—that is to say, upon the maintenance of the normal relations between anabolism and catabolism, rest and action, repair and waste—depends the *structural and functional integrity* which constitutes the health of the various tissues of the body, and of the great aggregations of tissue we term organs or viscera.

Upon the preservation of this rhythm—that is to say, upon the maintenance of the normal relations among the activities of the various organs—depends the proper balance of function, the *intrinsic organic harmony*, which constitutes the health of the organism as a whole—in the case of man, the health of body and mind.

Upon the preservation of this rhythm—that is to say, upon the maintenance of the normal relations between the organism and its environment—finally depends the continuance of life.

Rest is valuable in therapeutics, because it conserves energy, saving to the organism as a whole or to a particular organ or system of organs the force that might be dissipated in action; because it lessens waste and gives opportunity for the repair of impaired tissues; because it tends to permit restoration of the disturbed rhythm of internal functions; because it places the organism in a favorable relation with its environment.

Nowhere is this more manifest than in the therapeutic relations of the heart and circulatory system. In the heart itself we have visibly and palpably illustrated the necessary alternation of repose and action. Of course, absolute rest is found nowhere in nature. All terms are relative. The sun, which is at rest in relation with the system of planets revolving about it, is in motion in relation with the so-called fixed stars, which latter are fixed only in the name they have derived from certain of their relations with earth. And so, too, the sciences which deal with the ultimate elements of matter assume the incessant motion of these in relation with each other, even though one aggregation of restless molecules may be at rest in relation with another such aggregation.

Now, while the living heart is never at rest, absolutely speaking, yet its two opposite motions may, in relation with one another, be considered periods, respectively, of repose and action, of anabolism and catabolism. The diastole, mainly a passive state, is a period of repair in relation with the systole, which, as an active exertion of energy, is a period of breaking down of tissue. In clinical studies, as a rule, we speak of diastole and systole, simply meaning thereby the diastole and systole of the ventricles. But in studies like the present we must bear in mind that there is another diastole and another systole—namely, those of the auricles—and that the ventricular and auricular motions are not supplementary, but complementary. Except for the diastolic overlapping in the so-called period of pause, auricular diastole is synchronous not with the diastole, but with the systole of the ventricles, while auricular systole coincides in time with the diastole of the ventricles. When the blood is leaving the ventricles to enter the arteries it is at the other end of the circuit entering the auricles from the veins. When it leaves the auricles it passes directly from them into the ventricles.

During diastole of the auricles, then, the heart receives into these chambers on the right side from the systemic circulation through the venæ cavæ, and on the left side from the pulmonic circulation through the pulmonary veins, the blood, which, during systole of the auricles and coincident diastole of the ventricles, passes into the latter, and by their systole is sent out from the right ventricle through the pulmonary artery into the pulmonic circulation, and from the left ventricle through the aorta into the systemic circulation. Following this is a so-called period of pause, both auricles and ventricles being relaxed. Auricular systole then follows as before. Reflux of blood from ventricles to auricles or from arteries to ventricles is prevented by valves. For proper circulation, both auricular and ventricular diastoles and systoles must preserve normal relations with each other, with the pulmonic and general blood-pressure, and with the respiratory rhythm; while for proper maintenance of health, both pulmonic and systemic circulations must preserve normal relations with each other and with organic functions generally. These relations comprise, structurally, on the side of the heart integrity of the muscle, of its membranous cover and lining, and of the valves, and the equal capacity of the four chambers. On the side of the vessels structural integrity relates to the various components of the vessel walls (fibrous, muscular, and elastic tissues) and to the endothelial lining membranes (intrinsic integrity), as well as to the absence of any cause of obstruction by pressure or otherwise due to causes external to the vessels (extrinsic integrity). Functionally, the normal relations comprise the vigor, extent, duration, and orderly succession of the various phases of the cardiac movements, the free play of the valves, the synchronous action of right and left sides. As to the vessels, normal arterial tension is the most potent factor, while proper constitution of the blood itself is a most material circumstance. While relations remain normal, the therapeutist has no function to discharge. When from any cause normal relations become disturbed, the problem presented to the therapeutist is, first, how to avert the immediate dangers arising from such disturbance; and, secondly, how to remedy the disturbance. Both phases of the problem may coincide, and the same measure solve both; or temporary measures may have to be instituted to meet an emergency, which may afterward be withdrawn or modified as the main difficulty comes under control. In combating the main difficulty our measures may be radical—that is to say, they may aim to *remove the cause* of the trouble; or, should this be impracticable, they may aim, notwithstanding persistence of the cause, to *restore equilibrium* by artificial means.

Restoration of equilibrium—that is, of the normal balance of function which constitutes health—may be accomplished *directly or indirectly.*

Direct restoration of equilibrium implies exaltation of a depressed function or depression of an unduly exalted function to the normal level. An example of such direct restoration as accomplished by Nature is given by the illustration of spontaneous healing cited in our first lecture, the compensatory hypertrophy of the heart which frequently takes place in cases of insufficiency of the mitral valve. Here the enlargement of the ventricle and the increased force of the systole compensate for the leakage of blood which takes place through the damaged valve, and the balance of function is preserved. We imitate this natural compensation when we administer digitalis to increase the vigor of the cardiac contractions.

Indirect restoration of equilibrium implies either depression of normal functions to the level of an impaired function with which they may be correlated, or, on the other hand, elevation of normal functions to the level of an unduly exalted function with which they may be correlated. An example of such indirect restoration of equilibrium, at least temporarily, by Nature, is the arrest of hæmorrhage by syncope, where the action of the heart is depressed to the level of the impaired resisting power of the injured vessels. This is therapeutically imitated at times by the administration of aconite or the application of ice over the præcordium in cases of hæmoptysis; or, as is sometimes done by military surgeons in cases of wound through the lungs on the battle-field, by the letting of blood from an arm.

Nowhere is the therapeutic problem more complicated by the complicated relations of various functions than in the case of morbid derangements of the circulatory system, and nowhere are the results of intelligent study of the problem leading to a proper adaptation of means to end more brilliant.

In our study of the blood we saw how the scriptural phrase, "The life is in the blood," might serve to remind us of a biological truth of prime importance.

As the amœba and similar organisms live in the water, so do the cells which make up the tissues of higher forms of life live in the fluids which pass from the terminal blood-vessels into the intercellular lymph-spaces. Literally, *in* the blood is the life. As the amœba takes from the water materials for its upbuilding and discharges into the water the waste products of its activity, so do the cells of our tissues take from the nutrient lymph the materials for their anabolism, and discharge into it the products of their catabolism. But we have already seen that the products of catabolism are dangerous to the economy; that every living thing is poisoned by the products of its own activity. As —to take analogous but not exact illustrations—carbonic acid and water, products of combustion, may be used to extinguish conflagration, and as the products of chemical decomposition interfere with the action of an electric battery, so throughout the world of life appears to rule this general law: *The end-products of an action bring that action to an end.* Thus alkalies check the activity of glands which secrete alkaline fluids, and acids restrain the secretions of acid-producing glands. Thus, in the presence of a certain amount of peptones, products of its own action, pepsin ceases to produce further change, renewing its activity when the peptones have been removed. The result of action being present, the stimulus to action is withdrawn. When hunger is satisfied, appetite ceases to be manifested. So, unless the products of the breaking down of tissue, which are the result of functional activity upon the part of cells, are withdrawn from the cells, their power for further action ceases.

It is not only "well," as the old song phrases it—it is absolutely necessary for our tissues

"to be off with the old love
Before they are on with the new."

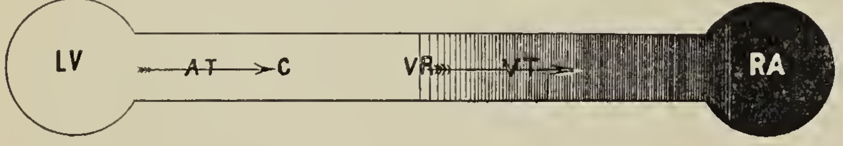
As the new is brought by the nutrient liquor which passes out from the capillaries—that is, by the arterial or aerated blood—so the old is taken up and carried away by the lymphatics and venous radicles; that is, by the venous or carbonated blood. In this exchange of "new lamps for old" the functions of the whole elaborate system of viscera—that is to say, of heart and vessels, and lungs and blood-making organs, and digestive apparatus and eliminating organs, with their nerves and ganglia, the functions of the whole system of so-called organic life—culminate. It is for this end they have being and activity. And in this final consummation the heart plays a most important part; for upon the proper rhythmic activity of that organ depends the constant circulation which renders the exchange possible.

We have seen in our previous studies that a thorough knowledge of anatomy and of physiology is absolutely essential before we can intelligently apply our knowledge of the powers of the *materia medica* to the study of the treatment of the sick; that is, before we can take up the true science of therapeutics.

The facts just passed in review serve to again emphasize this truth for us in connection with the circulatory system. In all our considerations of the actions of drugs upon the heart and vessels we must bear in mind the terminal circulation. We must remember the interchange of gases, of oxygen, and carbonic acid, not only in the lungs, but also in the intercellular lymph spaces—the *internal respiration;* and the allied processes of final assimilation and initial excretion—that is, the bringing of the materials of cellular anabolism and the taking away of the products of cellular catabolism—of which it may stand as type. We must consider, then, not alone the state and action of the heart, but also of the vessels. We must consider the distribution of the blood, peripherally, ventrally, in the various organs; the relative quantities of blood in the venous and arterial systems; as well as the relation which the whole amount of blood bears to the propulsive power of the heart. We must consider the conditions which favor and oppose circulation not only in the heart itself, the main trunks, and the larger vessels, but also in the capillaries, in the lymph spaces, in the venous radicles. We must consider the conditions which favor and oppose the internal respiration, and also the pulmonary respiration. We must inquire into the conditions affecting the pulmonary circulation. We must examine the condition of the great abdominal vessels—the portal circle; and estimate the effect of our therapeutic measures upon the organs of elimination, especially the skin and the kidneys, which are so powerfully influenced by changes in blood pressure and in the tension of the vessel-walls. Other considerations, also, come into view, which, however, can be more appropriately discussed in their special relations. But, above all, we must remember that our prime object is to *restore equilibrium, to re-establish the balance of function,* for that constitutes health. And, in order that we may be able to choose proper measures by which to re-establish equilibrium, we must inform ourselves as to all the disturbing factors. Thus it is that, while so-called "polypharmacy"—the objectless throwing together of a number of drugs in one prescription—is to be unhesitatingly condemned, yet in the application of remedies to the treatment of diseases affecting the heart and circulation it is often necessary to intelligently combine agents some of whose actions are in opposition. Digitalis, for example, may in some cases of cardiac dilatation, while acting beneficially upon the heart, yet, through its action upon the vessels in unduly heightening arterial tension, tend to again disturb the equilibrium which its cardiac action tends to restore. In such cases, as has been more especially shown by Bartholow, we can, by the simultaneous administration of nitroglycerin, which relaxes the terminal vessels, modify the digitalis effect; and the therapeutic object—*restoration of the balance of function*—is successfully accomplished. This, however, will be better discussed in our next lecture, when we take up special conditions and the principles governing their management. In the time that now remains to us we must try to gain some further insight into the important relations between those two great factors in the circulation which the example just cited shows us in apparent opposition—the systolic impulse and the arterial tension. Here we must again call to mind the two fundamental laws of physics we have had such frequent occasion to cite. "Motion takes place in the direction of least resistance." "Every action has an equal and opposite reaction."

The force by which the blood-current overcomes resistance is called the blood-pressure. The great cause of blood-pressure is the systolic contraction. Pressure is greatest in the ventricles during their systole, and least in the auricles during their diastole. Therefore these states, as we have seen, being coincident in time, the blood moves *from* the ventricles (in systole) and *toward* the auricles (then in diastole), traversing meanwhile the systemic and pulmonic vessels. These vessels afford the only route of communication between the left ventricle and right auricle on the one hand (systemic circulation), and between the right ventricle and the left auricle on the other hand (pulmonic circulation). There must be a gradual and continuous fall of pressure along these routes from terminal to terminal, in order to permit the movement of the blood, which takes place in the direction of least resistance. As pressure acts equally in all directions, the blood-pressure opposes the action of the heart in systole, and favors the action of the heart in diastole; in other words, there is, in consequence of the blood-pressure in the arterial system, a constant tendency toward reflux to the heart, which is normally prevented during systole by the higher pressure in the heart, and during diastole, so far as the ventricles are concerned, by the closure of the pulmonary and aortic valves. Thus the blood-pressure at any point represents the *possibilities of circulation* at that point. It should be higher than at the point beyond, and lower than at the point preceding. Whenever these conditions are reversed there is obstruction to circulation.

Passing over and neglecting anatomical and physiological details with which I must assume you to be familiar, we can, I think, render the subject somewhat clearer than I find it to be in the minds of most students whom I have had occasion to question, by a diagram in which we shall ignore the pulmonic circulation and separate the two terminals of the systemic circulation—the left ventricle and the right auricle—considering only the passage of blood from the former of these to the latter.



Let L. V. represent the left ventricle, whence the arterial blood flows in the direction of the arrow through A. T., the arterial trunks, C, the capillaries; and now, taking up waste products and therefore becoming venous blood, as shown by the shading, on through V. R., the venous radicles, and V. T., the venous trunks, into R. A., the right auricle. At L. V. there is positive pressure (+), at R. A. there is a slight negative pressure (—), or aspiration; consequently the current, taking the direction of least resistance, flows *from* L. V. *toward* R. A. There is a gradual and continuous fall of pressure as we proceed along the vessels, and this renders possible a regular and equable flow of blood. If the pressure at any point between L. V. and R. A. were to fall below that of R. A., the blood would tend *toward* that point from both terminals, and circulation would be correspondingly impeded. If, on the other hand, the pressure at any intermediate point should become greater than at L. V., the blood would tend *from* that point in both directions; it would raise the pressure at R. A. and it would resist the onflow from L. V., and circulation would be impeded. Any intermediate degree of alteration of pressure would have effects proportionate to its degree.

Now, so long as the caliber of the tube A. T. to V. T.—that is, of the vascular system—remains unchanged, blood-pressure depends almost exclusively upon the contraction of L. V. But should the tube contract, thus increasing resistance, or dilate, thus lessening resistance, blood-pressure would *rise at the point of contraction* and *fall at the point of dilatation* without reference, and perhaps in opposition, to the action of L. V. As the blood presses equally in all directions, it presses on the walls of the arteries and stretches them, or puts them in a state of tension. Hence *the arterial tension is the measure of the blood-pressure*, and the two terms are used interchangeably. If, by contracting the vessels, we increase arterial tension, blood-pressure is heightened. If, by dilating the vessels, we diminish arterial tension, blood-pressure is lowered. Conversely, if, by forcing more blood into the arteries, we heighten blood-pressure, arterial tension is increased; or if, by diminishing the flow of blood, we lower pressure, arterial tension is diminished. The one is the measure of the other, and they rise or fall together. Practically it is the same condition with two names depending on the side from which it is looked at.

Now let us go one step further, so that in our next lecture we may be prepared to bring all our facts to a focus. While the blood-pressure normally varies, falling regularly from L. V. to R. A., there is a certain average, or *mean pressure*, which is an important factor in the circulation. The mean pressure represents the relation between L. V. and R. A. If, for example, pressure should become too low in R. A., the blood would tend to accumulate on the venous side, unless a corresponding fall was brought about at L. V. But if there should be a fall at L. V. and not throughout the whole system, circulation would still be impeded proportionately. Therefore the *mean pressure* must also fall before equilibrium can be restored. So is it, too, in any other case of alteration at the terminals or along the course of the vessels. The *mean pressure* must rise or fall to correspond with the rise or fall at L. V. Now, this mean pressure is very largely under therapeutic control. It is governed by a special nervous mechanism—the *vaso-motor system*—which, by acting on the muscular fibers of the arteries and arterioles, and probably on the protoplasm of the capillaries, causes them to dilate or contract. Local contraction heightens, and local dilatation lowers, local blood-pressure. General contraction heightens, and general dilatation lowers, general or *mean* blood-pressure. We have many agents by which we can act locally and generally, directly and indirectly, on the vessels and on the nervous mechanism which regulates their caliber. Some of these, such as heat and cold, irritants and counter-irritants, we have already discussed. Others will be considered at our next meeting.

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Original Communications.

SOMNAL, A NEW HYPNOTIC.*

By W. GILMAN THOMPSON, M.D.,
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Somnal is a new hypnotic which was introduced a year ago by Radlauer,† of Berlin. It is formed by a union of chloral, alcohol, and urethan, but the resulting compound is a complex body and not a simple mixture. Its physical characters are thus described by Dr. Frank Woodbury,‡ of Philadelphia, who administered it in several cases, in doses of from twenty to thirty minims, with very favorable result:

Physical Characters.—"Somnal is a colorless liquid, resembling chloroform in its appearance and behavior when added to cold water, in which it forms globules and refuses to mix or dissolve. When shaken with water, the mixture is milky, but quickly separates. It is soluble in hot water and alcoholic solutions, and dissolves resinous substances and fats. The odor is faint, not very penetrating or disagreeable, and resembling that of the spirits of nitrous ether, or recrystallized chloral. The taste is very pungent, and for administration it needs free dilution. It may be given with whisky or syrup of licorice. Somnal is inflammable, burning with an alcoholic flame; it does not evaporate quickly, and leaves a greasy stain upon blotting-paper. Specific gravity greater than water; reddens litmus paper slightly."

I have recently tested the physiological action and toxic effect of the drug upon animals at the Loomis Laboratory as follows:

Experiment I.—Five cubic centimetres were injected slowly into the rectum of a cat. In a minute and a half the tongue and retinal vessels became decidedly congested. The pupils were dilated and the pulse became rapid, but not very feeble. In ten minutes slight paresis of the hind legs appeared, and the animal staggered in walking. The fore legs were unaffected. Defecation ensued, which was performed with great muscular effort. When in a sitting posture there was evident vertigo, indicated by swaying of the head and body. The facial expression was dull and listless, and the animal was apparently sleepy, but was easily aroused by coaxing, when she would stand up and walk with an unsteady gait, the hind legs not being well straightened. I attributed the cat's difficulty in walking to vertigo rather than to actual loss of power, for the fore legs were not affected at all, and the hind legs were voluntarily used with good coordination in scratching her sides. In twenty minutes the cat became very quiet and sleepy. Both pulse and respiration were increased by about half the normal rate. When aroused by a call, the animal would get up and walk about with unsteady gait, but soon sought a quiet corner and dozed. In forty-five minutes she became much steadier on her feet, and, after a few more naps, appeared perfectly normal. The rectal temperature fell two tenths of a degree.

Experiment II.—Fifteen cubic centimetres of somnal were injected into the stomach of another cat through an œsophageal tube. The animal died in two minutes. The respiration ceased first, and the heart stopped half a minute later. Post-mortem examination showed the liver and spleen both greatly congested and enlarged by engorgement with venous blood. The stomach was congested and irregularly contracted from the local stimulation of the drug. Peristaltic movement of the intestines and tremors of the exposed voluntary muscles lasted unusually long. The heart had stopped in diastole with the right ventricle greatly distended, as in chloral poisoning. The pupils were dilated.

Experiment III.—To a black-and-tan dog, weighing nine pounds and a half, twenty-five minims of somnal were given by hypodermic injection. There was no evidence of local irritation. After fifteen minutes no effect was noted. In twenty-five minutes there was slight vertigo, indicated by swaying of the body in walking. There were muscular tremors, especially of the hind legs. The pupils were dilated. The dog walked about wagging his tail, but seeming very restless and uneasy. When his attention was diverted he appeared better and looked brighter. There was no important change in pulse, respiration, or temperature. In thirty-five minutes the dog appeared very drowsy, but occasionally opened his eyes. In a sitting posture the body swayed to and fro and the head drooped. In fifty minutes the dog was fast asleep. In an hour and a half the dog was awakened and appeared normal in every respect.

Experiment IV.—To a large bull-dog, weighing twenty-three pounds and a half, thirty minims of somnal were given by hypodermic injections. There was no local irritation. In ten minutes he showed decided tremors of the muscles of the face and abdomen and all the extremities. There were no convulsions, merely decided twitching at irregular intervals. The animal could walk well enough, but seemed to prefer quiet. The conjunctivæ were congested and the pupils dilated. In fifteen minutes the animal appeared extremely sleepy, and it cost evident effort to awaken when aroused by noises. In half an hour the tremors had diminished, and principally affected the hind legs. In an hour and a quarter the dog was again in a perfectly normal condition.

Experiment V.—A large mongrel dog, weighing twenty pounds, was etherized, and a cannula was inserted into the right carotid artery. The cannula was connected with a mercurial manometer, and tracings of the normal arterial pressure were recorded by a kymographion. Thirty minims of somnal were injected into the abdominal wall. The subsequent tracings showed a decided increase of arterial tension occurring within the first eight minutes, followed by a gradual return to the normal within a few minutes. The influence of the respiratory curve on the blood-pressure curve became much less marked than normal. No other effects of the drug were evident and the dog recovered completely.

These experiments show that—

I. The ordinary dose of somnal (thirty minims for man) may be given by hypodermic injection to dogs without other effect than drowsiness and slight vertigo and muscular tremor.

II. A dose of one fluid drachm and a half failed to affect a cat except in the same manner as the dogs.

III. A fatal dose of half a fluid ounce stopped the respiration before the heart and caused congestion of all the abdominal viscera.

IV. The blood-pressure in the arteries of a dog is temporarily increased by somnal, soon returning to the normal.

In the past few months I have given somnal fifty-four times in doses varying from thirty minims to a drachm. It was given to forty different patients, and very careful records of the effect in each case were tabulated, for which I am indebted to Dr. H. A. Griffin, house physician to the New York Hospital, and Dr. E. W. Perkins, of the house staff of the Presbyterian Hospital. So far as possible, patients were selected who were in the habit of sleeping very poorly, and not at all, unless some hypnotic was given them. Every care was taken to select only those patients who presented well-marked cases of insomnia. Cases were selected also with a view to having as great a variety as possible in the causes of the insomnia. The list includes, therefore, insomnia due to rheumatism, phthisis, bronchitis (cough), typhoid delirium, delirium tremens, sciatica, various forms of pelvic pain, neuralgias, etc.

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* Read before the New York Clinical Society, October 24, 1890.

† *Zeitschrift des Apothekers-Vereins*, November, 1889.

‡ *Dietetic Gazette*, July, 1890.

The records comprise the diagnosis of the case, the size of the dose, the time occupied in going to sleep, the duration and character of the sleep, condition on awakening, after-effects, effect on digestion, etc. Of the fifty-four instances in which somnal was given, it produced sleep twenty-six times within fifteen minutes and forty-three times within an hour. In six cases only is it noted as having no effect at all. In a few other instances where it failed to induce sleep it was found to have a very soothing and quieting effect. Sixteen patients slept practically all night after taking half a drachm. Fifteen more slept between three and six hours, and the remainder for briefer intervals.

In most of the patients the character of the sleep was natural; in only one or two cases did it seem more profound than usual. There were no after-effects noted in any case, with one exception—that of a patient with tuberculosis, who slept seven hours and a half, after a half-drachm dose, and felt depressed on awakening. Most of the patients felt considerably refreshed, many of them decidedly so. There was no disturbance of the stomach or of digestion, with one exception, where a patient with endometritis complained of pain after taking a dose of half a drachm. Doses of forty-five minims, and even sixty minims, produced no depression of the circulation or respiration—a very different effect from that of large doses of chloral. A patient with delirium tremens became drowsy in a few minutes after taking a drachm, but soon had to be quieted by other remedies. A case of typhoid fever with active delirium, almost maniacal, was unaffected by forty minims, but was immediately quieted by hydrobromate of hyoscine. Pain or cough, if severe, was not much relieved, though a soothing effect was sometimes observed.

Conclusions.—1. The effects of somnal are much more striking and certain than those of urethane, and far less depressing than those of chloral.

2. There is no vertigo or depression after taking somnal, such as may follow the use of sulphonal.

3. The action of somnal is usually very prompt, and doses of half a drachm, disguised in a little syrup of tolu or whisky, are always well borne, easily taken, and entirely without deleterious effect.

4. The drug, in doses of a drachm, is not powerful enough to decidedly control delirium tremens, maniacal delirium, or severe pain.

5. In doses of thirty or forty minims somnal is a safe and reliable hypnotic for ordinary insomnia.

Before making the physiological experiment above described, to determine the effect of somnal upon the blood-pressure, I gave it continuously to a patient with chronic interstitial nephritis and endarteritis, with phenomenally high tension. He had been taking frequent ten-grain doses of chloral, which reduced the tension very well. Thinking that somnal might have a similarly favorable action, I gave it in frequent doses instead of the chloral, but the tension immediately returned to the high degree that existed when the patient was first seen, and remained so extremely high that I was obliged to return to the chloral with the addition of nitroglycerin.

So many of the new hypnotics have one or more objectionable features, and their continuous use results in so many new drug "habits," that it is an evident advantage to have another remedy of this class which can be used interchangeably with others if desired, and which seems to be singularly free from injurious effects and yet strong enough to act promptly and efficiently in ordinary insomnia not due to intense pain or delirium.

THE VALUE OF EXPERIMENTAL MATERIA MEDICA.*

By CHARLES H. STOWELL, M. D.,
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The materia medica of our forefathers consisted largely of a mass of empirical facts. These Bechat defined as "the shapeless mass of inexact ideas." But out of this mass evolved much that was of undoubted value. As the therapeutical art advanced, however, it was more and more clearly seen that the materia medica of the future must be based on a study by the physiological method. It was only by this physiological test that we could enter into the very secret recesses of Nature. And thus the physiological action of a drug became our ruling principle.

Without doubt the physiological method is not only vastly superior to the empirical, but is also rapidly displacing it. It is not the object of this paper to advocate a change in this particular, but rather to utter a word of caution and criticism—a word of caution lest we be too eager to accept in full the edicts of our modern scientific schools; a word of criticism lest we altogether refuse to accept the results by the empirical method. We are led, therefore, to ask the following questions: What is the value of experimental materia medica? Can we accept as a safe guide the therapeutical conclusions based upon observations made on the lower animals? Is the action of a drug the same on the well as on the sick? If the action of a drug is one thing on the lower animals and a vastly different thing on man, of what value are the extensive experiments detailed to us in our current literature and in our works of reference? And in the case of new drugs, of what value are the conclusions derived from a study of their action on the frog, the dog, or the rabbit? Again, if drugs affect some of the lower animals differently from others, who is to decide which animal is the proper one to give us the true (?) physiological action? Then, again, if a drug does not have the same action in the various forms of disease, which disease must be chosen to give us its standard effect? In conclusion, if we are to rest fully content with the physiological method to the abandonment of the empirical, will we not be lost at sea without a rudder?

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* Read before the Medical Society of the District of Columbia, October 22, 1890.

In order to refresh our memories, let us present the following illustrations, collected from standard writers:

Chloroform.—The physiological effects of chloroform on man are well known. Yet Nunnely subjected the limbs of frogs and toads to a vapor of chloroform, and then proceeded to excise them piecemeal, without the animals betraying any signs of pain. Professor Simpson and Mr. Nunnely easily produced local anæsthesia on fish, frogs, insects, etc. Now, while it is true that many logical conclusions have been drawn from experiments on the frog, yet we would hardly be justified in beginning an amputation of a finger simply after immersing it in this anæsthetic.

Nux Vomica.—The experiments of Klapp prove that in the cat and rabbit strychnine slows the pulse. Bartholow says that in man the heart's action is accelerated. He thinks this apparent contradiction, however, may be explained by the dose employed. During the spasms of dogs the animals appear insensible to all impressions. They could be cut with knives without exciting signs of pain, but "in man the mind remains clear and unaffected; it is probable that little pain is experienced." In the case of the dog, either the susceptibility of the animal is primarily affected, or the pain is so severe that the extreme pain of cutting is not noticed.

Opium.—We are told that the poppy is a favorite food of the rabbit. He will actually thrive and get fat on such a diet. Three grains of the acetate of morphine have been given to this little animal with no effect. Based upon these experiments, it would seem safe to assume that this is quite a harmless weed, and that its active principle—morphine—is quite inert. Large doses of opium given to dogs appear to affect the motory powers, but do not produce coma. The purely instinctive emotions of the lower animals remain unaffected.

Quinine.—Stillé says that this drug, given to dogs, deranges, enfeebles, and finally extinguishes nervous action. Thirty grains given to a dog caused death in twenty-four hours. Dr. C. W. Brown reports that two grains placed on the tongue of a full-grown, healthy cat caused a violent convulsion within two minutes. The conclusion from this would be that quinine is a virulent poison, and should be used more cautiously than opium.

Quassia.—If an infusion of quassia is placed within the reach of flies, they will drink it, get benumbed, and act as if dead, but will finally recover. A new anæsthetic, sure enough! Rabbits are killed by concentrated preparations of the drug. Two grains of the extract of quassia applied to fresh wounds have caused the death of rabbits in from thirty to seventy-two hours. A mangy dog, washed in a decoction of quassia, lost the use of his hind limbs for seven hours.

Turpentine.—Two drachms of the oil of turpentine destroyed the life of a dog in three minutes, with signs of great suffering. Half an ounce killed a rabbit in sixty hours. In man, Bartholow says, the only fatal cases have been in children. He says from four to six ounces have been taken by adults. A child only fourteen months old took four ounces and yet recovered. Yet experimental materia medica would place this among the most dangerous of drugs.

Bismuth.—Orfila states in his *Toxicologie* that the subnitrate and nitrate of bismuth given to animals caused vomiting, depression, debility, dyspnœa, and death. The gastric mucous membrane was inflamed, softened, and ulcerated. Meyer, of Bonn, verified these observations. Yet how general is the use of this drug! As many as six drachms a day have been given to children only two months old.

Conium.—It is stated that the sheep and goat can eat conium without injury. Rabbits and horses have no mischief resulting from its use. One horse ate three pounds and a half without inconvenience. Cows may eat it freely also.

Arsenic.—This powerful drug may be administered in very large doses to horses without toxic effects. Birds will withstand a dose sufficient to destroy an amphibious animal of equal size.

Potassium Iodide.—De Vergine gave a dog two drachms of the iodide of potassium in an ounce of water, and the animal died on the third day. Magendie took two drachms of the tincture, equal to ten grains of iodine, without injury. An infant three years old took three drachms of the tincture at one time, and no bad effects followed.

Cod-liver Oil.—Experiments have shown that many of the lower animals do not thrive well when given this food. If pigs are given more than from one to two ounces a day, or sheep more than an ounce, or oxen more than from three to nine ounces, the oil invariably disagrees with them.

Alum.—We are told that there is not a fatal case on record from the use of alum. Yet two drachms of it in solution were fatal to a rabbit, as reported by Mitscherlich.

Jalap, *colocynth*, and *gamboge* are almost inert when given to the horse.

Emetics.—Emetics given to rabbits fail to produce any results, but if given to dogs the results are most marked, because the former never vomit, while the latter do so easily.

Ergot.—In discussing the physiological effects of this drug, Bartholow notes the following: "An enormous rise in the blood-pressure has been stated to occur by Eberty, Köhler, and H. C. Wood, and their opinion was based on kymographic observations. Holmes, Herrmann, and Wernich, on the other hand, maintain that the blood-pressure is actually reduced." From this mass of contradictory evidence how are we to glean the true from the false?

From a study of these well-known drugs it is evident that their physiological effect on the lower animals is different from that on man. In this connection we would call attention to a recent article by Dr. Huchard on The Physiological and Therapeutical Action of Drugs, read before the *Société de thérapeutique*, in which he calls attention to the marked differences in the action of some drugs in various forms of disease. He says that the action of some drugs is not the same in the well as in the sick. He states that quinine will lower the temperature in typhoid fever, but will not do so in erysipelas. He draws the conclusion from his observations that "it is not safe to make sweeping therapeutic deductions from observations of the physiological action of drugs." Concisely stated, he asserts that "physiology should not enslave medicine." In this connection would we recall the investigations of Professor Lichtheim on *resorcin*. He says he noticed the greatest difference in the power of resorcin to lower the temperature in the different fevers. All practitioners are aware of the power of the system to resist immense doses of opium in cases of peritonitis.

Now, if what has been said be accepted, two things must logically follow: First, the physiological action of any drug on the lower animals must not be accepted as its physiological action on man until fully corroborated by direct experiment on him. Second, direct observation of the action of a drug at the bedside must be an essential part of the foundation of our therapeutics. It follows, therefore, that the value of experimental materia medica is limited. Still further it follows that the medical student of the future must learn his therapeutics in the dispensary and hospital.

Deductions emanating from experimental laboratories should not be accepted until repeated observations on the human body, in health and disease, had fully corroborated the same. The physiological method is certainly vastly superior to the empirical, but it will ultimately lead us into confusion and chaos unless it goes hand in hand with every-day experience and observation.

PULMONARY PHTHISIS
TREATED BY INOCULATION WITH ANIMAL VIRUS.

By J. HILGARD TYNDALE, M.D.

This paper is intended as a preliminary report. The forthcoming report of Professor Koch's experiments is my excuse for giving my results to the medical world at this time. It will save me from being looked upon as a plagiarist.

For the past four months I have been treating a series of six cases of pulmonary consumption by *inoculation with animal virus*. The cases selected were all afflicted with actively destructive suppurative processes of the lung, and in all the presence of the *Bacillus tuberculosis* was demonstrated.

For the sake of brevity, let me present the method under four headings:

1. The necessity of exact and localized diagnosis. No case of mere connective-tissue processes, general or localized cirrhosis of the lung tissue, or binding down of the lung by pleuritic adhesions. The cases to be selected are active cavities and infiltrations, with suppurative expectoration and the presence of the bacillus. In all of my cases the temperature was persistently high. All but one had suffered great loss of flesh and were very anæmic.

2. The substance used for inoculation is the *pure vaccine lymph* obtained from the cow. This is not the time and place to give the details of the technique of inoculation, which is tedious, and requires an exact attention to detail.

3. Blood and fat formation, according to the requirements of each particular case. This line of treatment should be inaugurated from the beginning, or at least shortly after the first inoculation.

4. Lung gymnastics. This feature of my mode of treatment is of equal importance with the others and should never be neglected. It consists of deep inspirations at stated intervals.

Follow the cases:

Case I.—Marcus F., aged thirty, shoemaker; mother died of phthisis at the age of thirty-six. Large cavity at right apex. Infiltration with dullness down to upper border of fourth rib. Temperature, 102°. No appetite. Great weakness. Had three hæmorrhages within six weeks preceding inoculation. Sputa not very copious, containing bacilli and pus corpuscles. Inoculated twice. Present condition (existing since October 9th): Strength and appetite excellent. No further hæmorrhages. No bacilli. Occasional dry cough, but no expectoration. Cavity about half the original size. Vesicular murmur in place of infiltration. Has resumed work.

Case II.—Joseph B., aged thirty-two, porter. Sick for two years. Temperature, 99°. General nutrition good. Cavity at left apex. Pleuritic adhesions along inner edge of right scapula. Moderate expectoration, with sparse bacilli. Inoculated four times. Present condition: Normal strength and appetite. Last examination of sputa revealed a few bacilli (October 14th), since which time patient claims to be unable to cough up material for examination. No moist râles, but cavernous respiration only heard over cavity. Pleuritic adhesions disappeared.

Case III.—Marcus F., aged thirty-four, barber. Sick for five years. Great emaciation. Temperature, 101°. Very weak and no appetite. Moderate-sized cavity under right clavicle, with dullness to interspace between second and third rib. Infiltration left apex to lower border of third rib. Rapid and feeble heart's action. Copious expectoration; bacilli in great number. Inoculated three times. Present condition: Appetite normal and bodily strength very much improved. Emaciation unchanged. Temperature, 98°. Professes to be unable to furnish sputa since second inoculation, as his cough is a dry one. Cavity contracted and empty; friction râles in circumference. Infiltration left and right sides has disappeared, but respiration still feeble on right side, with occasional dry crackles.

Case IV.—George D., aged thirty-six, satchel-maker. Sick eight months. Great emaciation and weakness, and very anæmic. No appetite. Copious night-sweats. Temperature, 103°. Feeble and rapid heart's action. Infiltration of left apex to about lower edge of third rib; infiltration of right apex to fourth rib. Expectoration moderate. The first microscopical examination revealed pus corpuscles and broken-down epithelium, but no bacilli. The second examination showed bacilli "few in number." Inoculated four times. Three weeks ago was suddenly seized with pleuritic stitches on left side, followed by full-fledged serous effusion into the pleura. This disappeared six days after the fourth inoculation and gave way to vesicular murmur. Present condition: Good appetite and increasing strength; no notable gain in flesh, and paleness of skin, notably of the face. Temperature, 98° for the last ten days. Sputa: Pus corpuscles, no bacilli. Says quantity of expectoration is very much diminished. Vesicular murmur in place of infiltration right apex, and, as stated above, total disappearance of pleuritic effusion. Broncho-vesicular breathing, with sparse râles at left apex.

Case V.—Max G., aged thirty-six, peddler. Sick four months. Dr. Fishman, of Rivington Street, was kind enough to turn this case over to me. Very feeble; great emaciation and anæmia, and total loss of appetite. Temperature, 103°. Two medium-sized cavities in upper lobe of left lung, with surrounding infiltration. Infiltration of right lung to lower border of second rib. Feeble respiratory murmur over the posterior portion of the whole left lung. Copious sputa, with abundant bacilli. Inoculated four times. Present condition: Strength and appetite very much improved. Temperature, 99°. Microscopical examination (October 31st): "Bacilli not very numerous. Broken-down pus corpuscles." Expectoration diminished by about one half; muco-purulent. Cavities of left lung unchanged. Normal vesicular breathing over the whole of posterior portion of left lung. Exaggerated vesicular murmur at right apex where infiltration used to be. I have my doubts whether in this case the remaining lung surface will suffice for a final cure.

Case VI.—Johanna F., aged twenty-nine, widow. Family history excellent. Her husband died of phthisis about a year ago. Shortly after, she was seized with a cough and has been declining ever since. Moderate emaciation, but very weak and extraordinarily pale. Temperature, 102°. Expectoration copious and purulent. Microscopical report: "Could never get a field which showed more than two bacilli." Infiltration, with dullness and moist râles of both apices, with total absence of vesicular murmur. Inoculated three times. Present condition: Very much increased strength. Better color in her face; temperature, 100°. Expectoration muco-purulent. "Bacilli very few in number." Dullness gone over both apices. Feeble respiratory murmur over left apex. Broncho-vesicular over right apex.

My thanks are due to Dr. David Goldstein, 109 St. Mark's Place, for careful and frequent examination of the sputa. I am also much indebted to the gentlemen in charge of the vaccination department of the Board of Health, and to Dr. William C. Cutler, of Chelsea, Mass., for aiding me in obtaining virus of excellent quality and sufficient quantity.

My original intention was to allow six months to pass after the final inoculation of each patient before presenting them to the profession. Professor Koch's method will, I trust, lead to success, and it is more than possible that animal virus other than that of cow-pox will accomplish the same object. The chances are that therapeutical successes may from time to time be hatched outside of a laboratory.

In conclusion, I would request my colleagues to draw no final conclusions from what I have done thus far. At present I merely desire to put myself on record, and am not looking for cheap notoriety.

48 East Third Street.

The Macon (Georgia) Medical Society.—On the 18th inst., officers were elected as follows: President, Dr. R. O. Cotter; vice-president, Dr. H. J. Williams; secretary and treasurer, Dr. H. P. Derry; corresponding secretary, Dr. H. McHatton; reporter, Dr. W. A. O'Daniel; librarian, W. F. Holt.

THOUGHTS AND OBSERVATIONS AT "HEALTH RESORTS."

By JOSEPH WILLIAM STICKLER, M.D.,

HOT SPRINGS, N. C.

Many invalids may be found on mountain-tops and in the valleys who ought to go home and remain there. The great majority of invalids who are now in their own homes should stay there. Money can not buy or friends provide home comforts in hotels or boarding-houses. Big fees or little do not prevent "drummers" coming and going at various and unseasonable hours, and slamming doors, all of which is not conducive to sleep or helpful to persons who go from home to secure undisturbed slumber.

Patients who can not sit upon the piazza at home without risk after sundown may sometimes be seen knee-deep in a trout-stream, or perched upon a log or cold rock in the damp woods watching for deer, immediately after reaching the "health resort." This is not the best and quickest road to health.

Dancing in a hot and crowded parlor or ball-room till 11 or 12 o'clock in the evening, with an occasional walk or flirtation on the piazza for the sake of getting "cooled off," does not appear to be a satisfactory method of treatment for phthisical patients, or persons whose throats and lungs are weak.

The man or woman who goes to the mountains for fresh air as a remedial agent and sits all day in a hotel may as well go home on the first "limited express," unless the individual is to be satisfied with minimum instead of maximum benefit.

The invalid who stays at a health resort just long enough to get rid of troublesome symptoms, and then goes back to business or home duties and responsibilities, very often goes home to die.

Damp sheets and a strong draught do not, as a rule, tend to re-establish a normal condition of body.

People who occupy rooms over foul-smelling water-closets and on the side of the hotel where the sun never shines do not seem to get well so quickly as those who live on the sunny side and away from cesspool infection.

Residence in a fine hotel in a malarial district does not cure malarial disease. A short stay in an elevated region which is non-malarial will often "develop" latent malarial poisoning. This is also true of some *low* non-malarious districts. Don't leave either place just because of the occurrence of a chill.

When an invalid finds a health resort which furnishes what he needs he should stay there till he becomes strong and well.

Every man, woman, and child who has phthisis in its primary stage should at once go to the best climate this country furnishes.

The Society for the Relief of Widows and Orphans of Medical Men.—At the recent annual meeting, officers were elected as follows: President, Dr. Henry Tuck; vice-presidents, Dr. Elsworth Eliot, Dr. J. J. Milhau, and Dr. Everett Herrick; treasurer, Dr. J. H. Hinton; managers, Dr. J. W. Warner, Dr. W. T. White, Dr. A. F. Currier, Dr. O. D. Pomeroy, Dr. Willard Parker, Dr. J. D. Bryant, Dr. G. T. Jackson, and (to serve one year, to fill a vacancy) Dr. A. R. Matheson.

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THE RENAISSANCE IN THERAPEUTICS.

In therapeutic art and practice great changes have taken place during the past fifty years. Certain methods have been so transformed that the art seems almost new. Others have been guided to new ends, and the scope of many is much enlarged. In and about 1840 medical poverty seemed almost to equal that of Scott's country doctor, with his two simples of "calamy" and "laudamy."

Interesting indeed is Dr. John Kent Spender's paper, in the *Practitioner* for October, on the therapeutic revival. Pathology, he says, was in great fashion between 1845 and 1870, and diagnosis was worshiped and deified. Medical energy ran in the direction of necropsies and microscopes. Post-mortems that showed a doctor to be right were more esteemed than a cure that proved him wrong. Morbid anatomy was a passport to fame. But afterward a more human philosophy altered the current of professional thought, and Dr. Latham declared that the treatment of a disease was a part of its pathology. Sir Thomas Watson chided the profession for vagueness and want of earnestness in the use of drugs. Nowadays we employ our therapeutic possessions as if we trusted them, and lean upon the rock of physiological experiment and observation. And this renaissance in therapeutics has made the medical profession fellows in sympathy and work, bringing liberty and fraternity, and giving prominence to the fact that all are equal who have equal knowledge and experience.

The *London Pharmacopœia* of 1824, the official guide to pharmacy and the art of prescribing, was hidden from vulgar scrutiny by the Latin tongue. And so one G. F. Collier, M. D., in a fit of audacity for which there was no precedent, wrote a translation, with notes and criticisms. This gave mortal offense to the Royal College of Physicians, who threatened to treat it as an illegal publication. Publisher and printers were intimidated, and the latter refused to go on without a guarantee of indemnity. The book was published at last, however, and it is not recorded whether G. F. Collier was burned or imprisoned, or whether he retired into decent obscurity.

The last edition of the *Pharmacopœia* in Latin was published in 1851. Associated with this epoch are the names of three distinguished men—Pereira, Royle, and Copland, prophets and teachers, all like each other in physical bulk and elephantine fiber. Pereira's story begins before the flood, his researches going into all lands and all philosophies. Royle knew all the therapeutic botany of India, and reveled in the flora of the Himalayas. Copland enjoyed a high reputation, and had a great London practice between 1830 and 1850. These three giants died, and others entered into their labors. The old manners softened. The home rule of separate pharmacopœias for England, Scotland, and Ireland was voted an absurd bondage, and in 1864 the *British Pharmacopœia* (in the vulgar tongue) was published. Every one found fault with it. It was called almost a failure. In 1867 another edition, with earlier errors left out, became the basis of the authorized version of 1885, the convenience of which is everywhere recognized.

An urgent problem, thinks Dr. Spender, is that of how to teach the clinical application of therapeutic science; that is, what amount of the grammar of the language should be learned before attempting to speak it. The art of prescribing is supposed to come by nature. In reality, ignorance of its methods and rules is keenly felt by many. A work of art should have consistency and integrity. And these are the special qualifications of a prescription, which ought to be a finished product of skill and experience.

The renaissance in therapeutics exhibits special skill in the analgesic group of medicines. In the dawn of some severe inflammations, notably those of the eye, morphine in doses of one twelfth of a grain every hour quiets the storm and the sympathetic tumult. When detected by the expert observer, it is stated that the initial stage of acute glaucoma has been checked by this plan. When pain is only a subordinate symptom of inflammation, like many others, tartar emetic is full of power. Take, for instance, inflammation of the whole breast after childbirth. Administer fifteen minims of wine of antimony—one sixteenth of a grain—in water punctually every hour for sixteen or twenty hours. Everything must give way to it, even sleep itself. Every hour the trouble recedes. Milk and egg may be allowed in moderation, and no other diet. Alcohol is poison. On the next day every classic symptom of inflammation will have vanished. This method will also control the acute efflorescence of psoriasis. To-day the law that small doses and large doses of the same drug exercise quite a different effect is distinctly understood. A combination of one twenty-fourth of a grain of morphine and three minims of castor oil, taken every half hour for six or seven times, may stop acute choleraic diarrhœa in a most effective manner. Medicines of a similar tendency may economize each other when given at the same time, the drawbacks of each being lessened and the efficacy of the total product increased; for example, those of a bromide and chloral.

The renaissance is glad to drop traditional baggage, the useless material that drags down the medical car. Drugs that do no good are not now prescribed. Excess of caution in dosage is the cause of many therapeutic failures. We must guide the treasures of the pharmacopœia as powerful machines that can be made to act with the finest delicacy. True courage is never afraid of power. Systematic study of the pharmacopœia would reveal riches little suspected and restorative forces of priceless worth. "Medicine is an art founded on many sciences," says Sir Dyce Duckworth, "and a great physician is a great artist." The revival in therapeutics is the birth of larger art in medicine.

FAITH-HEALING UNSUITABLE FOR AFRICAN FEVER.

Some peculiarly painful cases of loss of life through "faith-healing" have been recently brought to light. One of these cases has been the occasion of ministerial correspondence between Great Britain and Mr. Secretary Blaine, dealing with a report from the colonial surgeon, Dr. Palmer Ross, of Freetown, Western Africa. This report shows that three deaths have taken place in a band of nine young missionaries from our own Western States. These deaths took place by fever soon after the arrival of the party at their African station. Under the guidance of their leader, an ardent believer in divine healing, the sick, whether their cases were grave or mild, were allowed to go untreated by medical means; and, in the opinion of Surgeon Ross, the febrile cases began to assume an unnecessarily virulent type which endangered the whole community, and which impelled him to order officially the adoption of sanitary measures, such as isolation, disinfection, and a speedy burial of the dead. Others of the missionaries also took the fever, but they submitted to treatment, some willingly, but others under protest. Surgeon Ross then declared his intention to report the matter to the Governor and to advise that all the survivors be sent back to America, on the ground that a tropical climate was not suited to those who trusted alone to faith-healing and ignored the means placed by Providence at their disposal for the relief of suffering humanity, and that such a line of conduct was a danger to the community at large.

A late issue of a missionary journal, called the *Regions Beyond*, although very friendly to this unfortunate party in Africa, takes special care to point out the error made by them in rejecting medical treatment, and says: "These deaths took place in July, and to us it is an additional pain to know that, humanly speaking, these lives need not have been lost, but might have been usefully spent in Gospel service in Africa. Unfortunately, in passing through New York, on their way out, they came under the influence of one who teaches what is called faith-healing. From him they received the sadly erroneous doctrine that, though God has given us medicines and the skill to use them, it is contrary to his will we should do so. It is inexpressibly sad that these devoted young lives should thus needlessly have been thrown away at the bidding of a false theory. Very solemn and terrible is the responsibility of the teachers of this theory when they urge African missionaries to dispense with quinine and other antidotes to deadly fever." Among the other members of the party who also suffered from fever, but who received the usual medical treatment, there were no deaths reported.

MINOR PARAGRAPHS.

THE HYPNOTIC EFFICIENCY OF PARALDEHYDE.

Paraldehyde is represented as being the sheet anchor, among the hypnotics, in the neurological clinic at Dorpat. Dr. H. Dehio is quoted by the *British Medical Journal* as saying that that drug has been his favorite for some time, and still retains its position as the most reliable sleep-producer—superior to hypnone, methylal, chloralamide, amylene hydrate, urethane, sulphonal, and hydrochloride of hyoscine. Paraldehyde has been given by Dr. Dehio in many severe cases, the initial dose commonly being 75 to 90 minims, which was followed by another dose of 45 to 60 minims; this was found sufficient in most of the cases to give a good night's sleep. As a rule, the drug acted well, but sometimes only slight sleep followed, while at other times tolerance was too soon established; but these occasional disadvantages were more than counterbalanced by the fact that the drug, even in large doses, did not influence the heart and respiration. It may upset the organs of digestion, causing diarrhœa. The medicine must be pure beyond peradventure, and should not redden litmus paper; and it should be kept in the dark and in tightly stoppered bottles. If this is not done, it will soon become acid. The prolonged use of paraldehyde is followed by the following chain of symptoms: Loss of appetite, gray coloration of the skin of the face, dryness of the surface, and loss of weight; at the same time the drug loses its power to produce sleep. These symptoms pass off on the discontinuance of its use. Headache and depression are not among the after-consequences of this remedy, whereas amylene hydrate has those effects, but it does not interfere with the digestive apparatus to the same extent as paraldehyde does. In severe cases of motor disturbance, such as occurs in delirium tremens and mania, paraldehyde, along with six others of the hypnotics mentioned above, are practically useless; in these cases Dehio has found the hydrochloride of hyoscine, in $\frac{1}{70}$-grain doses, to be the most reliable hypnotic in such cases.

SCIENTIFIC PROPHYLAXIS.

An article in the *University Medical Magazine* for November, upon the subject of ptomaines, admits these chemical products of bacterial growth as potent factors toward the fatal issue in certain forms of disease. That such chemical compounds are formed has been pretty conclusively demonstrated by the work of Brieger and others. It is shown that these ptomaines are of the character of amines. With the cholera-infantum germ, in addition to the ptomaine proper, there is also an albuminoid body formed by the growth of the germ which is very poisonous and is probably an intermediate stage before the final development of the ptomaine. Immunity from anthrax, in guinea-pigs, has been obtained by inoculating them with albumose resulting from sterilized cultures of the anthrax germ. In the *Medical News* for September 6th and October 4th Schweinitz describes the ptomaines and albumose which he has obtained from hog-cholera culture liquids. The culture liquid used was a peptonized beef infusion. He succeeded in isolating small quantities of two old ptomaines and one new one to which he ascribed the formula $C_{14}H_{36}N_2$. He suggests the names sucholotoxine for the ptomaine and sucholoalbumin for the albumose obtained from the growth of the hog-cholera bacillus. This ptomaine, together with the albumose, seemed to be the potent poison in hog cholera. He also cites a number of experiments on the guinea-pig with the isolated compounds, in which the animals were rendered proof against the disease. This line of research is only in its infancy, but it is within the range of probability that a certain class of diseases may eventually be kept in abeyance by scientific prophylaxis.

EPITHELIOMA ADAMANTINUM.

In the *Wiener klinische Wochenschrift* for October, Dr. Derujinsky, of Moscow, describes this form of dental tumor, the occurrence of which is somewhat rare. The varieties of dental tumors previously reported have been of the colloid form, the result of degeneration in the cell elements. There is no doubt, he says, that these growths derive their origin from epithelial remains, and that one of the evidences of such remains being present is the occasional development of supernumerary teeth and the growth of new teeth late in life. From careful examination of the literature on the subject, the author, though unable to find another case reported having similar microscopical structure, concludes that dental tumors are probably all of a common origin. The growth in the case under consideration proceeded directly from the alveolar process of the maxilla. Careful microscopical examination of the tumor showed the structure to be almost identical with that of the normal enamel of the teeth. Cohnheim's theory was that all dental tumors sprang from embryological germ tissues. The author is of the opinion that the case belonged to this class, and that trauma or some irritation of the maxilla or alveolar process had set up chronic inflammation, producing proliferation of cells, and resulting finally in the development of the enamel structure described. The tumor was non-malignant but recurrent, its reappearance being probably due, he thought, to some of the growth remaining after the first operation, as dental tumors are for the most part benign.

BONE GRAFTING.

Mr. A. G. Miller, in the *Lancet* for September 20th, reports the history of a case in which he used decalcified-bone chips successfully to fill up a large cavity in the head of the tibia. A piece of the rib of an ox was used, being first scraped and then decalcified in a weak solution of hydrochloric acid. After cleansing by pressure, it was placed for forty-eight hours in a carbolic-acid solution, one to twenty, then removed, and cut into small pieces. During the scraping out of the cavity in the knee, preparatory to the grafting, a number of small pieces of bone were removed. These were placed in a solution of boric acid for use later in the operation. The cavity was then stuffed with the decalcified-bone shavings, the pieces of fresh bone being added last. The cavity thus filled was about two inches in diameter. Granulation and healing took place rapidly; the only pieces of bone that became necrosed were from the patient's own body. The author is convinced, from his observation of this case, that the healing of large bone cavities, the result of injury or disease, is greatly facilitated by stuffing them with decalcified-bone chips, that these are superior to fresh bone, and that fresh bone not only is of no use, but actually hinders the process of granulation.

THE ORTHOPÆDIC SECTION OF THE TENTH INTERNATIONAL MEDICAL CONGRESS.

The institution of this section may fairly be said to have been due to the efforts of our countrymen. It is pleasant to see the fact frankly recognized in Europe. In a report of the proceedings, by Dr. Kirmisson, published in the November number of the *Revue d'orthopédie*, the credit of the initiative is given to Dr. Newton M. Shaffer, of New York, who, as well as Dr. Bradford, of Boston, became one of the presiding officers of the section. The *Centralblatt für orthopädische Chirurgie und Mechanik*, in an extra supplement, expresses itself to much the same purpose.

THE HARVARD MEDICAL SCHOOL.

The new laboratory of this institution is approaching completion. It stands on the easterly side of the main building, and is sixty feet in length and three stories in height. The basement contains the rooms for animals and apparatus. The animal rooms are unusually well lighted and ventilated. The ground-floor is to accommodate the bacteriological department, with large and small rooms for the instructor and special workers, provision being made for thermostats, sterilizers, a library, chemical and other glass ware, closets for clothing, etc. The two upper stories will be devoted to pathological work and photography. The old laboratory rooms in the main building will be made over for the use of the undergraduates.

THE CARE OF THE INSANE IN THE STATE OF NEW YORK.

The recent sad incident of the murder of Dr. Lloyd by an escaped lunatic is, we presume, at the bottom of that one of a number of new orders lately issued by the State Commission in Lunacy which states that no insane patient in the custody of an institution must be allowed to go out on parole who, in the medical superintendent's judgment, is dangerous to himself or to others; that no parole shall be granted for a period longer than thirty days; and that, on the escape of a patient, prompt and vigorous measures must be taken to secure his return. Another order is intended to insure to insane persons comparatively unrestricted correspondence with their friends and wholly unrestricted correspondence with State and court officers.

THE TETRAHYDRONAPHTHYLAMINES.

Dr. R. Stern, in the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, gives an account of some recent experiments made on animals with the tetrahydronaphthylamines. The preparation used was an aqueous solution administered hypodermically. An increase in temperature resulted in an hour, with dilatation of the pupil and general symptoms of poisoning. There was an increase in the quantity of urine voided, and in its nitrogenous and phosphatic constituents, the poison reaching its maximum effect on the second day, when the symptoms gradually subsided. The observer concluded that the changes in the urine were not those common to high temperature, but were consequent upon the specific poisonous action of the drug.

TANNIC ACID AS AN INTESTINAL ANTISEPTIC REMEDY.

Professor Cantani has written, in the *Wiener medizinische Blätter*, of his therapeutical trials of tannic acid in intestinal diseases. He has found it, in $\frac{1}{3}$-, $\frac{1}{2}$-, or even 1-per-cent. solutions, acting a useful part as an antiseptic, as it hinders the vegetative activity of the microbes and renders innocuous many of the poisonous ptomaines. In diarrhœa and dysentery, therefore, tannic acid becomes an important disinfectant as well as astringent remedy. Mosler also reports that this drug is very beneficial in typhoid fever, particularly for removing the symptoms of meteorism and diarrhœa. Antiseptic solutions are best introduced by enteroclysis, the fluid thus administered having been proved, by the subsequent vomiting of some of it, to reach not only the whole length of the intestines, but even to the stomach.

ITEMS, ETC.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 16 to November 22, 1890:*

Moseley, Edward B., Captain and Assistant Surgeon, is granted leave of absence for one month. S. O. 100, Department of Texas, November 17, 1890.

Burton, Henry G., Captain and Assistant Surgeon, is, by direction of the Acting Secretary of War, granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea. Par. 9, S. O. 269, Headquarters of the Army, A. G. O., November 17, 1890.

Phillips, John L., Captain and Assistant Surgeon, is, by direction of the Acting Secretary of War, relieved from further duty at Fort Crawford, Colorado, to take effect on his relinquishing the unexpired portion of his present leave of absence, and will report in person to the commanding officer at Camp Guthrie, Oklahoma Territory, for duty at that station, reporting by letter to the commanding general, Department of the Missouri. Par. 7, S. O. 269, A. G. O., Washington, November 17, 1890.

Johnson, Henry, Captain and Medical Storekeeper, is, by direction of the Acting Secretary of War, granted leave of absence from January 1 to March 24, 1891, inclusive, with permission to go beyond sea. Par. 18, S. O. 268, A. G. O., Washington, November 15, 1890.

Gandy, Charles M., Captain and Assistant Surgeon, Fort Clark, Texas, is, by direction of the Acting Secretary of War, granted leave of absence for three months. Par. 10, S. O. 266, Headquarters of the Army, A. G. O., November 13, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 22, 1890:*

Ayers, J. G., Surgeon. Ordered to the U. S. Receiving-ship Wabash.

Evans, Sheldon Guthrie, commissioned an assistant surgeon in the U. S. Navy.

Bates, N. L., Medical Director. Ordered as president of Naval Medical Examining Board at Mare Island, Cal.

Moore, A. M., Surgeon. Ordered as member of Naval Medical Examining Board at Mare Island, Cal.

Society Meetings for the Coming Week:

Monday, *December 1st:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *December 2d:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Medical Societies of the Counties of Herkimer (semi-annual —Herkimer) and Saratoga (Ballston Spa), N. Y.; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association; Baltimore Academy of Medicine.

Wednesday, *December 3d:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *December 4th:* New York Academy of Medicine; Metropolitan Medical Society (private); Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *December 5th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *December 6th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Special Articles.

THE OPENING RECEPTION IN THE ACADEMY OF MEDICINE'S NEW BUILDING.

(*Concluded from page 582.*)

The Influence of Scientific Associations upon Great Cities was to have been the subject of remarks by Mr. D. Willis James. The president read a letter of regret from Mr. James, who said: Very highly I appreciate the honor of the invitation to speak on the important occasion of the opening of the new and beautiful home of the Academy of Medicine of New York. It is a serious and great regret that I am prevented from being present. As a citizen of New York, greatly interested in her welfare, progress, and fame, I feel impressed with the vast importance to the city of such an institution as the Academy of Medicine as a center of most important scientific investigations, and I desire to join in the heartiest congratulations to you, sir, as president of the Academy, and to all the members, on the completion of the great work in which you have labored so faithfully. New York can not learn too soon the fact that a great imperial city can not be built upon material prosperity alone. The foundations must be deeper, broader, and more enduring. Years ago in the city of Würtzburg I was deeply impressed by the fact that the magnificent palace, begun centuries ago as a home for regal magnificence, luxury, and display, was going to ruin and was shrouded in gloom, while the hospital, started at the same time, to be of service to the wretched and suffering, was, after the lapse of centuries, doing its beneficent and holy work, out of which had sprung a medical college, the fame of its distinguished professors drawing crowds to the city. If New York is to be the great imperial city of the future we must see to it now that we plant and foster, not only churches, and galleries, and parks, but also great universities, largely endowed, and, as the most important parts of these universities, medical colleges magnificently and munificently endowed, so that they shall have every possible facility for accomplishing the best work. The beginning has been made in the endowment of the Vanderbilt clinic and in the founding, by an unknown but wise donor, of the laboratory which it was wisely required should bear the name that has added so much luster to this city—a name honored and beloved by every member of this Academy.

But far more must be done and done promptly. Look at the magnificent work the medical profession has done and is doing for suffering humanity, stirred as our enthusiasm is by the discoveries of such men as Professor Koch, of Berlin, with their promise of lasting benefit to humanity, let us, as citizens of New York, see to it that in our midst the means are ample and promptly supplied for the most complete scientific research in all departments of learning. Let this be especially so in medical sciences, and let us do promptly for New York what Johns Hopkins has done for our sister city of Baltimore.

Remarks of Dr. S. Weir Mitchell, of Philadelphia.—Dr. Mitchell, having been introduced by the president, said: Such an introduction will, I am afraid, convey the impression that I am prepared to give you a poem, a novel, or a dose of medicine equally well. A few things have been suggested to my mind from what I have heard to-night. I may call myself one of the fellows who come from the immediate neighborhood. I am an honorary fellow and therefore not entirely a stranger, but share in the congratulations of my fellow-fellows of this Academy. How much delight it gives me to see what has been done for our profession in this palace of medicine to-night! I was reminded by some of the speakers of what I saw years ago when I visited the French Academy. I desired to find a certain book, but was unable to do so; the books were without a catalogue. Without this a library is of no more use than a man without a memory. When I inquired why this condition of things existed I was told that they were waiting for the Government to do something in the matter. You know how long we should have to wait for our Government to do anything for us. We do things a little differently in this country, and the result is before us to-night. I am often struck with the frequency with which the term "our profession" is in our mouths, and it is a phrase which sometimes provokes a smile. It should be considered rather a great guild than a profession, and this guild a great and glorious and world-wide brotherhood. In illustration of what I mean, I fell ill in a small town in Germany. A physician attended me with much care and skill. When he learned that I also was a physician he would not allow me to give him any fee. He said: "Sir, I was ill in St. Petersburg and a good doctor took care of me and would take nothing from me, and so you will pay me by taking care of some other in that far country of yours across the sea." The records of these things are not written in the books of this world. This guild of which I have spoken possesses a creed drawn from the morals of Christianity—honor, chastity, brotherhood, and charity. As to the charity, I ask what lawyer would sit down twice a week and give a couple of hours' advice to any who might come and ask it, and do this for nothing? What merchant would say to a needy customer, "I propose to present you with these goods?" Yet it is a fact that two thirds of the physicians of eminence give two or three hours, sometimes daily, to this kind of labor, when the experience to be gained from it has long ceased to be of benefit to them. This kind of work is not fully understood by the public, or they would be more willing to come forward and assist us in return by aiding our great libraries in such purposes as we are endeavoring to carry out around you to-night. I must not only on my own part congratulate the fellows of the Academy upon the completion of this work, but also offer the warm congratulations of the members of the Philadelphia College of Physicians. I have been of late their president, and from them I carry this message. I was asked the other day by two very intelligent laymen, to whom I was showing our medical library, why the profession needed such a vast collection of books, and whether such were not simply the graveyard of theories and the record of what was now useless. I replied that, while theories died, facts remained, and had their vital uses to-day, and might be quoted; therefore a great library was a great museum of facts which remained to us permanently. A medical library showed the history of the profession, which had its joys, its sorrows, and its romances, and upon its shelves might be found the record of what the profession had done in the past and the indications of what would be done in the future. When the physician of this or any other great city ceases to desire to be learned and accomplished in a great many ways, and is ready to forget the honorable traditions of his profession, and is beginning to look upon it as merely a business, then he will have taken that one fatal step toward degradation, a step from the high level to the lower one of a merely useful trader.

Remarks of Dr. Reginald H. Fitz, of Boston.—Mr. President and Ladies and Gentlemen: To find myself a guest on so memorable an occasion as the present is a privilege I can not value too highly. My feeling, however, is not one of unalloyed pleasure, since a sense of envy arises as I see commodious and comfortable appointments which are to serve in the future as one of the many medical centers of your city—one which I feel will not be the least to unite in harmony members of our profession and make us ever mindful that a common aim, the welfare of suffering humanity, is the chief object of a physician's life. But my sense of envy is somewhat blunted as I am reminded that the success of your efforts may be attributable in some measure to the inspiration which may have been derived from the city I represent. My friend, Dr. Chadwick, reminds me that not many years ago, a few months before you were congratulating yourselves and were being congratulated upon the possession of a new library hall, your president of that time, the honored Dr. Fordyce Barker, visited Boston. He came to see how we dedicated a new library building. He learned so much that after his return he was able to say to you that, if you proved worthy of your trust, still better things might come to you in time. That he was no false prophet he who comes may see. May my visit to New York be followed by as brilliant a result as his to Boston! On that memorable occasion when, in 1879, your library hall was dedicated, Boston was represented by one of its distinguished physicians, Professor George C. Shattuck. He was about to tell you what we had been doing to obtain a suitable building for a medical library—one which might also serve as a meeting house for physicians, where they might forget their disagreements and be stirred to the accomplishment of better things. New York's hospitality was so pressing that before his story was completed I find he was invited to partake of the loving cup. What that may have meant I must ask those of you who were present to recall. I may perhaps be permitted to finish what he began, though neither so well nor so completely, but the tale may act as a suggestion that may not prove to be without profit.

The Boston Medical Library serves pre-eminently as a medical center for our city. It contains our largest collection of medical works and periodicals. In its rooms the various medical societies meet, and its hospitality is offered with the greatest freedom to all those seeking its aid. In these respects it may follow closely your footsteps. For the community in which we live it does something more, a work that is perhaps better appreciated by the sick patient than all the rest—it furnishes a home for the Directory of Nurses. This means that at any time, night or day, in reply to messenger, telegram, or telephone call, a suitable nurse for any sort of ailment will immediately be sent to the houses of patients, whoever they may be, at a trifling charge. Nurses have been so sent throughout New England, to Carolina and Florida, to Colorado and California, possibly to New York. In the past year nearly two thousand nurses were thus supplied. The directory is an immediate benefit to the library, as the income is so far in excess of the expenditure as to constitute a considerable financial support to the needs of the library. Its convenience to patients and to physicians, as well as to nurses, has made it a necessity, it has come to stay. I have made the story as short as possible, and, though your present surroundings suggest that you are in no need of financial support, such an undertaking I am convinced you would find, on trial, a convenience which would make your influence as a medical center even greater than now seems possible.

I thank you for your welcome and attention, and shall return to my city encouraged, trusting that the day is not far off when Boston will follow your example in providing a medical center worthy of its profession and wealth such as this, which is a monument to the influence of such men as Jacobi and Loomis, and to the generosity and public spirit of its philanthropic citizens.

Remarks by Dr. Fordyce Barker.—Dr. Barker said: Mr. President and Fellows of the Academy: I must detain you only a few moments on this joyous occasion to express my warm congratulations. It is now nearly twelve years since I had the honor first to address the Academy officially, when I expressed the hope that the walls of our then home would soon be extended for our rapidly growing library. Within a few months after, by the spontaneous gift of one whose name must ever be gloriously perpetuated and now honors one of the rooms in the present building, our house was greatly and beautifully enlarged, and met all our wants for several years, until it became apparent that we must have more room for our books and the other requirements of the Academy.

To most of us this probably seemed a dim perspective in the future. Who could have expected so speedy and noble a result as we now see? We can now say appropriately, in a paraphrase of the words which Shakespeare put into the mouth of Gloster, in Richard III: "Now is the winter of our discontent made glorious summer" by these our sons of York.

I must congratulate the Academy on its office-bearers, all of whom must have worked most zealously to bring about this happy result. And I especially congratulate it on its wise election of the present incumbent of the presidential chair and his immediate predecessor, both of whom have labored together with untiring earnestness, great wisdom, and tact, and both of whom possess means which they have liberally contributed to this end. I do not hesitate to express the opinion that without the combined efforts of these two gentlemen the glorious consummation which has now arrived would have been long delayed.

We have now a central and spacious home in which the profession will find it pleasant and profitable to work together for mutual improvement and the public good in the advancement of science, the promulgation of new truths, and the development of progressive skill in our art, and, I will add, the cultivation of those social graces which bind us in the friendly ties of brotherhood in a noble and useful profession. We can assure the profession that they will be welcomed to a library which contains the accumulated treasures of the past on every topic pertaining to medical science, and the current periodical literature of the day, so necessary for all who would keep abreast with the present rapid advance of science.

We to-night begin a new era of the New York Academy of Medicine. Who will venture to cast a horoscope of its grand future? New York, the commercial metropolis of the country, should be the metropolis of the medical thought, the medical literature, the medical teaching of the country; and to the Academy of Medicine belongs this great mission.

One thing we should all remember—that above there is room for an additional hundred thousand volumes. Ever bear in mind that *concordia res parvæ crescent*, *discordia res maximæ dilabuntur;* and the future we seek for this Academy is certain to be gained.

Letters of Regret were read by the president. Dr. L. L. Seaman had written: In congratulating the Academy upon the acquisition of its new home, I beg, through you, to present to its members a statue of Esmeralda, hoping that within this new temple of science Art may ever find a most generous welcome.

The Hon. Grover Cleveland regretted that a previous engagement prevented him from being present on an occasion so full of interest.

Dr. Henry I. Bowditch, of Boston, closed his letter with the wish that the New York Academy of Medicine might continue the powerful influence in the future that it had had in the past for the uplifting of the whole profession of America.

Dr. N. S. Davis, of Chicago, closed his letter with this sentiment: The event you celebrate marks another illustration of the maxim that in union and harmony there are both strength and success.

Dr. Bacon, of New Haven, wrote: As in the past, we shall in the future watch the doings of and receive inspiration from the New York Academy of Medicine.

Dr. W. H. Welch, of Baltimore, wrote: I feel confident that the new era inaugurated by taking possession of your new building will be one in which not only the members of the Academy, but also the entire profession in New York and the whole country will take pride.

Dr. Oliver Wendell Holmes wrote: I regret that I can not be present at the opening reception at your new building, but in one sense I shall be among you, for the whole of the medical profession will be with you in spirit and fellowship. Academies have too often been thought of as places of honorable retirement and dignified ease—roosts where emeritus professors and needy men of letters, once cocks of the walk, could sit in quiet rows, while the fighting, the clucking, and the crowing were going on beneath them. No doubt to be a member of the French Academy—one of the forty immortals—is an honor worth striving for, in spite of Piron's epigram. But the academy which fulfills its true function is a working body which deals with living subjects; which handles unsettled questions; which sets tasks for its members and furnishes, so far as it can, the appliances required for their prosecution. It offers rewards for meritorious performances, and sits in judgment upon the efforts of aspirants for distinction. It furnishes the nearest approach we can expect to a fixed standard of excellence, by which the work of new hands and the new work of old hands can be judged. It is a barrier, a breakwater against the rush of pretensions which are constantly attempting to find their way into the public confidence. Nowhere is such a defense more needed than in the science and arts which deal with the health of the community. The public is so ready, so eager to be deceived, and the adepts in deception are so willing, so hungry to deceive those who will listen to them, that it needs a very solid wall of resistance. The various forms of what I will venture to christen as pseudopathy and pseudo-therapy—though they are known to the public by other names—can never loosen the hold of the thoroughbred and intelligent physician on the intelligent members of society so long as the best heads of the profession are banded together in a noble institution like this Academy. Only let it ever remain steadfast.

We look to this great and able body of men to guard the sacred temple of Science against the worshipers of idols. The medical profession will always have to fight against the claims of the wrong-headed. There is a certain number of squinting brains, as there is of squinting eyes, among every thousand of the population. There will always be a corresponding number of persons calling themselves physicians ready to make a living out of them. Long may it be before the wholesome barriers are weakened that separate the thoroughbred and truly scientific physician from the plausible pretender with his pseudopathy and his pseudo-therapy. We trust it will be always enough for the physician to be able to say, "I am a member of the New York Academy of Medicine."

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 8, 1890.

The President, Dr. Charles K. Briddon, in the Chair.

A Contribution to the Study of Appendicitis.—Dr. Lewis A. Stimson read a paper on this subject. (See page 449.)

Dr. Charles McBurney said he would speak for a moment on that class of cases which were being constantly held up by physicians as ending in rapid recovery with comparatively mild symptoms and without calling for operation. These mild cases were numerous, and one physician might, in his practice, come across some three or four of them and draw his conclusions therefrom. Another, with a large practice, might not meet with any cases of appendicitis. The speaker had tried to formulate some definite rules to enable one to decide at once if the case presenting was one which required operation or one that could safely be treated by conservative measures. He was obliged to say that he was, as yet, unable to lay down any definite rules for his own guidance or that of others who might desire to study the subject. Much was to be learned from the general expression of the patient as to the existence of steadily advancing disease. The character of the pulse in almost all cases gave a considerable amount of information and was in some instances more important than the temperature. The latter was a very unreliable diagnostic sign. Sometimes it would remain below 100° F. while suppuration was becoming pretty well advanced. Again, the sensations of pain were not of great value. The length of time elapsing since the seizure, taken in connection with the general symptoms, would often help ot decide the question of operation. He had operated at various stages, at the end of the first, second, and third day, and had thought that it was often admissible to allow thirty-six hours to pass before deciding upon an operation. Very few accidents were likely to happen during that time. If this period was passed and there was no increase in the symptoms, and the pulse was nothing more than a moderately feverish one, then the question of operation might be delayed or given up. But, again, it was true that following such a rule might be a very unfortunate proceeding, for early perforation, with septic peritonitis, might take place. Still, he thought such conditions might be recognized by the general symptoms, which would sharply define them from a case that was steadily improving. Something definite, however, was needed to mark the line between the cases which bid fair to end in recovery and those which did not, in order to encourage operative procedure where it was indicated. He would like to see further information forthcoming on this point. He had within the past year seen twelve cases which had been mild from the beginning and, within forty-eight hours, had become still milder in character, and the patients recovered rapidly without operation. In these the operation had not seemed called for. As to the question of recurrence of the disease with increased severity, say five or six attacks, many medical men asserted that the recurrent condition was a favorable state of things, and that such cases were not likely to end in perforation. He would cite the case of a young man who had had three or four attacks of appendicitis of marked severity at intervals of a few months. This patient had been under careful observation by competent men. The speaker had seen him at the end of the third attack, when he was getting better. An operation was not urged, as it seemed clear that no pus had ever been present. It was supposed that very strong adhesions had formed around the appendix, which would protect the peritonæum in case of another attack. Subsequently another attack had come on, and the character of the symptoms was, this time, so alarming as to call for prompt operative interference. Instead of adhesions, there was only one, and this was not recent. In a little pocket formed between the appendix and the colon there were about three drachms of pus. It seemed evident that if the patient had even turned over in bed he would have spilled this material into the pelvic cavity. He would like to mention one rather striking fact. No one who had ever seen these operations could have failed to note how exposed the adjacent peritoneal tissues were to septic infection from instruments and sponges, no matter how great the care taken to avoid this. Still, it was a fact that septic infection seldom arose from this cause. He did not know the reason. Perhaps the relief given from the tension and the resulting improvement in the circulation allowed the patient to dispose of a moderate amount of local sepsis.

Dr. F. Lange said his experience in these cases was of course not so great as that of the last speaker. Though he had in a good many cases operated for perityphlitic abscess, he had only in five cases excised the appendix after free laparotomy, and he was rather inclined to temporize. Free opening of the peritoneal cavity in encysted perityphlitic abscess was always a dangerous operation, and wherever it could be abandoned in favor of the usual incision of older date, it must be to the advantage of the patient. It must not be forgotten that in former years by far the majority of these cases, under cautious treatment, had been cured by simple incision. On the other hand, there were cases in which the radical operation could not be done too early, and the difference in the virulence of the infecting agent must be very great in the various cases, if one saw that there were cases which would end fatally in forty-eight hours by acute septic poisoning, and, on the other hand, those in which there were large quantities of pus with no serious disturbance of the general condition. In some of his own cases, as well as in several others, where he had acted as consultant, he had been struck by the advanced stage of destruction compared with the short time after the onset of the severe symptoms. By the middle of the second day there had been found, not only perforation, but extensive destruction of the appendix and far-gone infection of the peritonæum. In such cases the destructive process in the appendix, perhaps a circumscribed formation of pus around it, must have preceded, and the bursting of such a formation must have given rise to the diffuse peritonitis. In other cases the state of things was quite different. After repeated attacks, the operation might reveal the fact that no formation of pus had ever taken place, as Dr. McBurney had just cited. He recalled the case of a young man, about eighteen years of age, whom he had presented to the society about two years before, on whom laparotomy had been done twice. The first operation showed the ascending colon constricted by adhesions and bands. The appendix was not found, as it was imbedded in a thick cicatricial body behind the colon, and ileocolostomy was done, since it was assumed that perhaps the narrowness of the colon had been the real cause of the attacks. The patient made a good recovery, but the attacks did not cease. Another laparotomy, with careful dissection of the hard mass behind the colon, brought to light the dilated and thickened appendix with an almond-shaped fæcal concretion in it, but nowhere the slightest indication of any formation of pus or disintegration of the walls of the appendix. The patient made a good recovery and was now in perfect health. This case was the first one of operation in New York in the quiescent stage. In this case the attacks had probably always been due to an accumulation of inflammatory material within the appendix, and the attacks had ceased by the discharge of the fluid into the gut. Though in most of his five cases, four of which had ended in recovery, he had found fæcal concretions, it was not quite probable that these mostly rather hard, smooth bodies had been the direct cause of the attacks.

The most difficult question in the treatment of certain cases of perityphlitis in which the operation was advisable was with regard to the temporarily reduced general condition of the patient. Some of these patients would surely die if not operated upon; in some the operation might be the immediate cause of death. Would the patient stand what ought to be done? To decide this question was, in his opinion, one of the most difficult tasks in surgery. An apparently diffuse peritonitis would sometimes become circumscribed, though several foci of pus might be formed. He had repeatedly in this society cited his experience in cases where extensive suppuration had taken place and several openings through the abdominal and rectal walls had had to be made. He was, however, not able to give any distinct rules according to which in some of these cases a temporizing treatment was preferable, while an early operation might kill the patient. The pulse and general expression of the patient gave a certain ground for judgment, but it was always unsafe, and probably would always remain so, since the infectiousness of the poison and the resisting power of the body were two factors which might be guessed at, but for which no safe standard could exist. Contrary to Dr. Stimson, he had found perforation in those of his cases where suppuration was present. To illustrate how minute sometimes such a perforation might be, a specimen of appendix was shown.

Dr. Parker Syms said that the opinion held by physicians that many patients with appendicitis recovered without surgical interference was of course a correct one; but in this connection he would call attention to the fact that error in diagnosis was frequent. He had met with two such instances recently.

Dr. Lewis S. Pilcher said that, after listening to the paper read a year ago by Dr. McBurney, he had been observant of cases which might be appendicitis, with the view of making the diagnosis in the early stages and appreciating the symptoms calling for operative interference. During the year he had met with quite a number of cases, but in one case only had the indications been such as to warrant early operative interference. In one he had been in doubt, and had desired that a little longer time should be given him before deciding. On the second day another consultant was called in, who also requested a little time. This second delay had proved fatal, for before a decision was arrived at the patient had died. In other cases he had had no hesitation in advising that no operation should be done, and resolution had taken place. Such resolution, without the formation of abscess requiring operation, had formerly been a frequent experience with him when he had been engaged in general practice. During many years he had not met with a case of appendicitis which had not, under proper treatment, given satisfactory results. Since his cases had been carefully watched, so that he could be reasonably sure there was no mistake in diagnosis, he was bound, as the result of his own experience, to adhere to the doctrine that many inflammations in the region of the appendix would result in resolution without operation. In one recent case such resolution had, after some months, been followed by a second attack, which had resulted in suppuration, requiring incision. In yet another case, which he had seen at the beginning of the third day and within a few hours after it had first been seen by any physician, there was no tumor, but the localized tenderness, which they should be pleased to recognize as the McBurney symptom, was distinctly marked. Symptoms of rupture of the appendix and septic invasion of the peritonæum were pronounced. and the general septic intoxication was severe. The necessity for prompt interference was manifest. He had not felt justified in refusing to operate in this case, notwithstanding the little prospect of benefit which it gave. The region of the appendix was exposed, and the organ was found buried in a mass of dense adhesions. The right iliac fossa was filled with a quantity of thin, ichorous, puriform material. The adjacent intestines were also covered by exudate, but not yet adherent. The patient was temporarily improved by the operation, but afterward succumbed to the septic condition existing before the operation. The post-mortem demonstrated that all the accumulation of septic material had been removed and that drainage had been efficient. In still another case a typical perityphlitic abscess had formed, which had opened into the bowel before he saw it. This internal drainage had, however, been inadequate, and he had been compelled to make an incision through the groin, after which the abscess had healed quickly.

The President said that, as to the innocuousness of a given amount of pus in certain cases where the peritonæum was exposed to infection during an operation, he believed it had been demonstrated that this region could take care of itself against a certain amount of septic material, provided the focus from which the material was secreted was removed in time. In experiments on animals a certain amount might be introduced; the temperature rose, but the animal recovered. But, if the material was in large quantities, general sepsis took place. If only a limited quantity was used, or the focus of infection was removed, it would not produce general peritonitis of a fatal character. He thought that the treatment of these appendicitis cases by thorough drainage and the use of such dressings as iodoform gauze had a great deal to do with the happy results obtained. As to the pulse, he thought that, when pus formed in the pelvic cavity to a limited amount and became encysted, the temperature fell.

Dr. Lange took exception to the term "resolution" which Dr. Stimson had employed for cases which seemed to end in spontaneous recovery, and asked in what sense he had used it.

Dr. Stimson replied that he had used it in the sense in which it was sometimes employed in connection with other inflammations—namely, to indicate the subsidence of inflammatory symptoms without the evacuation, and apparently without the formation, of pus. He believed, however, that such subsidence was not proof that pus had not formed. He thought a small amount of pus might be absorbed.

Dr. McBurney doubted whether the pus was ever absorbed. He had found it many months after in patients who had been comparatively well in the interim. He believed that many of the cases were those of moderate inflammatory action. There was a certain amount of infiltration. The appendix became swollen and there was strangulation of the blood-vessels, with general interference with the circulation of the organ. If the circulation became re-established and the patient got well, the process might be not inaptly termed resolution.

Dr. Stimson thought that the fact that pus was found as stated was no proof that it was never absorbed. It was known that the cellular elements of pus might undergo a molecular degeneration which fitted them for absorption.

Dr. McBurney showed an appendix, recently removed, in which there was a well-marked gangrenous area surrounded by comparatively healthy tissue. Within the organ there was a small fæcal concretion, which probably accounted for the original irritation to the mucous membrane, the strangulation of the vessels, and the resultant gangrene.

Exostoses of the Femur and Enchondroma of the Metacarpus.—Dr. Lange exhibited a specimen of extraordinarily large and irregular exostosis bursata which he had removed with the chisel from the femur of a young lady in whom the growth had existed for a great number of years; also a specimen of apparent exostosis of the metacarpal bone of the second finger, which had proved to be an enchondroma.

Prolapse of the Rectum; Operation; Recovery.—The President reported the following case: Emma H., aged thirty-two, married; no morbid family history. General health had always been good. Her present trouble dated back to an early period of childhood. With every defecation there had been a protrusion of the bowel through the anus, the condition being much aggravated when the bowels were constipated. When riding, traveling, or engaged in other active exercise, the patient had always had a feeling of insecurity due to a partial loss of control over the sphincter. She had had one miscarriage and one normal labor nine years ago. For a period of two years following the birth of her child she had suffered little inconvenience from the prolapse. Her symptoms had all returned, however, and seven years ago she had undergone the operation of linear cauterization, which was followed by temporary relief. Her symptoms had again returned and she desired a cure by operation. The perinæum having been shaved and scrubbed and the parts made aseptic, the prolapsed mass, five inches long, was drawn down through the anus and thoroughly exposed, a procedure easily accomplished owing to the relaxed condition of the sphincter. The patient was then placed upon the back with the thighs separated and elevated as in the lithotomy posture. An incision was made transversely through the mucous membrane on the anterior aspect of the prolapsed gut, a little below the verge of the anus. The dissection was then continued, the hæmorrhage being checked with clamps. The peritoneal pouch of Douglas was then opened. The danger of infection at this stage of the operation was minimized by frequent irrigation with Thiersch's solution. The peritoneal cavity was then closed off by uniting the two opposed serous surfaces by Lembert sutures of fine catgut above the line of division. The prolapsed portion of rectum was then ligated *en masse* with an elastic ligature and cut away with a few sweeps of the scalpel, and the proximal end of the gut slipped up within the anus. It was brought down, and, after the application of a very large number of ligatures, which were required to control the hæmorrhage, its mucous membrane was sutured with silk to the mucous margin of the anus. The sutures last introduced were left long, the ends hanging from the anus. The site of operation was irrigated, a morphine suppository inserted, and the operation completed by the application of an antiseptic dressing and a T-bandage. The portion of gut removed measured over five inches in length. There was some rise of temperature on the third day, with nausea, eructations of gas, and tympanites. The patient had convalesced steadily and regained perfect control over the rectal sphincters.

Umbilical Hernia; Operation; Recovery.—The President also reported the following case: Frances P., aged forty-seven, housewife. Eight years ago she had an attack of right hemiplegia, from which she had fully recovered in two years. She had had five children, her confinements being easy except the last, eight years ago, when she was in labor for three days. Shortly after the birth of her last child she sustained a severe strain from a fall, and three weeks later she noticed for the first time a slight bulging at the umbilicus. The tumor increased in size, and she consulted a physician and was advised to wear a pad and binder. In spite of these supports, the tumor continued to grow and had recently become painful and tender. There had been no vomiting or disturbance of the bowels, and her appetite was good. There has been a marked loss of strength, but no emaciation. The patient had come under the speaker's care at the Presbyterian Hospital, where he had operated as follows: The abdomen having been well scrubbed and made aseptic, the patient was put into the dorsal decubitus and the site of operation surrounded with aseptic towels. An elliptical incision was begun two inches above the tumor, carried entirely around it, and prolonged to the same distance below it. There was a very thick layer of abdominal fat, and the dissection was continued down to the fascia of the abdominal muscles, exposing the neck of the sac and at one point accidentally making an opening in the sac, through which a mass of omentum protruded. After carefully isolating the neck of the sac, the peritoneal cavity was opened and the contents of the sac were explored. They were found to consist entirely of omentum, the pedicle of which was ligatured and the entire mass cut away. The abdominal viscera were held in place by means of a hot antiseptic sponge in the wound, and the incision in the peritonæum was closed with interrupted sutures of stout catgut. The incision in the abdominal wall was then closed by a double row—deep and superficial—of interrupted sutures, drainage being provided for by the insertion of one medium-sized tube in the most dependent portion of the wound. The parts were irrigated and the operation was concluded by the application of an antiseptic dressing and a snug binder. The patient made an uninterrupted recovery and, a month later, was fitted with an abdominal supporter.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of November 4, 1890.

The President, Dr. Landon Carter Gray, in the Chair.

Astasia and Abasia.—Dr. G. M. Hammond showed a young woman who had never been the subject of any serious illness excepting Pott's disease, which had come on during childhood. Over a year ago the speaker had attended her through an attack of nervous prostration. During her illness she had suffered from aphonia. The difficulty in standing and walking was not discovered until she was able to leave her bed. On her regaining her strength sufficiently to walk around, it was observed that she invariably walked by first advancing the left leg and then drawing the right one up to it. When she attempted to walk naturally, immediately that the right foot touched the ground her body would revolve rapidly to the right, when, after making a revolution and a half, she would sink to the floor. Physical examination of the limbs revealed nothing abnormal. The patient while seated or lying down could move both legs normally; with the right leg, however, more mental effort was required to make the movements. The patellar tendon reflex was normal on both sides. There was no ankle clonus, anæsthesia, hyperæsthesia, or any other disorder of sensibility in any part of the body with the exception of slight loss of the muscular sense in the right leg. The electrical reactions, both qualitative and quantitative, were normal. The field of vision and the color sense were found normal. The senses of hearing, touch, pain, and temperature were tested without anything abnormal being discovered. There was some resistance to passive flexion and extension of the right leg. Those symptoms, then, of difficulty in standing and of inco-ordination and ataxia of movement for the act of walking, but not for other muscular acts, corresponded accurately to the condition described by Bloeg under the title of astasia and abasia. Bloeg was of the opinion that astasia and abasia was a condition pathologically similar to agraphia. The speaker did not see anything in these cases to substantiate this view. People afflicted with the disease under consideration could make the motions of walking perfectly well if they were allowed to lie down, but it had never been maintained that an individual suffering from agraphia could write any better in one posture than in another. The condition, it seemed to the speaker, depended upon a loss of the power of adjusting muscular contractions so as to maintain an exact equilibrium. This was, of course, a defect of the muscular sense. There was no known tract in the spinal cord disease of which would be followed by these symptoms. Bloeg had attempted to make a distinct neurosis of this class of cases, and maintained that a diagnosis between hysteria and astasia and abasia could readily be made. In the latter disease there were no hysterical stigmata, he stated, no constant paralyses or constant contractures. But the latter were by no means characteristic of all cases of hysteria, and when it was considered that every case of astasia or abasia had been accompanied by some other symptom or symptoms, such, for example, as hyperæsthesia, anæsthesia, aphonia, contraction of the visual field, and temporary color blindness, all of which frequently accompanied hysteria, and since the disease under consideration was purely functional in character, no macroscopical or microscopical lesion ever having been discovered in it, it would not be difficult to believe that astasia and abasia was merely an uncommon type of an hysterical affection.

Dr. C. L. Dana said that, if it was possible to exclude any organic trouble as a factor in the case, there seemed nothing left but to give the condition the name which Dr. Hammond had used. It was by no means certain that this so-called disease deserved a separate clinical position, and all the vagaries of the trouble were by no means known. He thought that the diagnosis might be accepted as a provisionally correct one.

Dr. Louise F. Bryson said she had recently been reading a case reported in a French journal of what was known as "left- and right-sided disease," in which the patient always had to walk to the right. Physiologically, the muscles of the right side were stronger than those of the left, and perhaps the case was one of exaggerated function of the muscles of the right side.

Dr. G. W. Jacoby said that in a recent number of the *Berliner klinische Wochenschrift* Dr. Binswanger had stated his belief that the whole trouble resulted from a psychical condition, as the same phenomena were found in other mental states. He had not seen a case exactly like this, but others which reminded him very much of it. He was inclined to consider the condition as a psychic manifestation. Women, after long confinement in bed, would sometimes, when attempting to walk, find themselves too weak to do so, and immediately conclude that they had lost the power. While lying down or sitting, they had entire control of their limbs, but when they essayed walking, then came the fear. It was a psychic disturbance of equilibrium. He thought that Binswanger had done as much to clear away doubt in this class of cases as others had done to produce confusion.

The President said he had never seen anything like this case. The cases of hysterical paralysis that he had seen had been typical forms of paraplegia. He had also read the two cases described by Russell Reynolds, who had called them "paralysis of idea." He did not think it was well to designate this case as one of hysteria on account of the presence of some spots of anæsthesia, because it had been shown that this occurred in a great many different nervous disorders, both functional and organic. It seemed better to accept the case as a clinical entity and hold any opinion in reserve as to the cause of the manifestations.

Syringomyelia.—Dr. J. C. Shaw presented a single woman, thirty years of age, who had always had good health until about six years ago, when a weakness of her left hand was noticed. This condition had steadily increased up to the present time. For the past three years she had had a constant aching in the left arm, shoulder, and side of the neck, and lately on that side of the head. For two years there had been a numb spot on the inner side of the left arm. She had constant sensations of burning on the left side of the face and neck, with flashes of heat and cold. There was a small spot on the back of the head where this burning sensation was greater than anywhere else. She presented an atrophy of the small muscles of the left hand, which had existed for six years, and was gradually growing worse. There was also slight atrophy in all the muscles of the left arm, shoulder, and side of the face. In the area of the numb spot the tactile sensibility was impaired. The thermic sense was greatly diminished over the entire left side, and in the right lower extremity as well. The reflexes were exaggerated. While the examination of the patient had not been as careful as it might have been, the speaker thought that it was sufficient for the purpose of diagnosis.

Dr. B. Sachs thought the personal equation was a powerful factor in this case. It certainly had been so that evening. The case did not seem to him to be one of syringomyelia. The atrophy was not marked enough, particularly about the shoulder. The sensory symptoms were not so distinct as in a typical case. So far as he could judge, the case seemed one of amyotrophic lateral sclerosis, though further examination or observation might lead him to a different conclusion.

Dr. M. A. Starr said that there were several features about this case which reminded him of one that had come under his observation. He had not brought these points out, because he did not know that they belonged to syringomyelia. One of these peculiarities was the noise made in the throat—a sound as of alarm. This had been present in his patient, who was by no means a hysterical girl. He had regarded it as due to a muscular contraction of the larynx during inspiration. His patient would make the noise whether she was quietly conversing in his office or was before a class of students. This feature was to be taken into consideration. He thought that the stationary condition of the atrophy in this case indicated the existence of syringomyelia rather than that of amyotrophic lateral sclerosis. He had demonstrated pretty conclusively the changes in the pain-sense by sticking the point of a needle into the patient's arm without her knowing it. There was no mistake about it, for he had put the needle in a quarter of an inch. Then there was the history of a loss of temperature sense. The patient had noticed in putting her hands into hot water that there was a difference between the two sides. Therefore, bearing in mind the non-progressive condition of the atrophy and the existence of changes in the temperature and pain senses, he supposed one was warranted in making a diagnosis of syringomyelia.

Dr. Sachs thought the question depended upon the actual condition of the sensory derangements in this case, and, of course, the examination had been but cursory.

Dr. W. R. Birdsall thought that where the results of examination were so at variance it would be hardly worth while to attempt any expression of opinion in the way of diagnosis. It had been his impression, from the descriptions of cases of syringomyelia which he had read, and in which an autopsy had been held as confirmatory evidence, that the histories had given the pain and temperature sense as having been both affected. He should say that the case before them was at least, typical in this respect. As to this disease, it was a remarkable fact that, during the past year, of the cases in which syringomyelia had been diagnosticated during life there had been no autopsy, while in those autopsies which had revealed the existence of the disease its presence had not been suspected during life.

Dr. Dana said that last spring he had had a patient in his hospital service who had presented many similar symptoms. There had been atrophy in the muscles supplied by the ulnar nerve and of the small muscles of the hand. There was also anæsthesia involving the temperature and pain senses. The atrophy had slightly involved the opposite side. There was also a belt of anæsthesia over the lower portion of the trunk, and extending to the thighs. There was no disturbance of the sensory functions. The girl had gradually developed symptoms of bulbar paralysis without any sensory symptoms accompanying. He had been obliged to regard this as a typical case of progressive muscular atrophy. He had since seen a case of progressive muscular atrophy in which sensory symptoms were present. If the symptoms of bulbar paralysis were developed in the case before them, it would, he thought, turn out to be a case of progressive muscular atrophy. As to amyotrophic lateral sclerosis, it was simply another name for the same disease.

The President said the only way to make a diagnosis of syringomyelia seemed to be to make an autopsy. The value of the loss of thermic sense in a patient as a diagnostic point was, to a great extent, vitiated by the fact that the relations of this sense to other organic spinal diseases were unknown. He thought it would not be possible to establish the fact satisfactorily that this was a case of syringomyelia until the woman died.

Spina Bifida, with Suppurative Meningitis and Ependymitis of Bacterial Origin.—Dr. L. Emmett Holt and Dr. Ira

Van Gieson reported a case of spina bifida in an infant in which the entrance of bacteria into the wall of the sac had apparently caused suppurative spinal meningitis and ependymitis. The child had died at the age of three weeks, having had paraplegia, marked irritability, and failing nutrition. The center of the spinal sac had the appearance of a granulating surface and was covered with a sero-purulent discharge. There were no physical signs of hydrocephalus. At the autopsy the ventricles of the brain were found to be greatly distended with thin pus. The pons Varolii and the cerebellum were partially covered with a yellowish exudation, also a portion of the spinal cord and the whole interior of the sac. There were great numbers of small cocci, in chains, in the wall of the sac, in its inner coating, in the central canal and meninges of the spinal cord, in the exudition on it and the pons and cerebellum, and in the walls of the lateral ventricles. The microphyte seemed to be the *Streptococcus pyogenes*. Dr. Holt said he had seen one other of these cases of hydrocephalus in which the disease had existed without any symptoms during life. He thought there were probably a great many more than was usually supposed. He had been surprised to find that the ventricles contained several ounces of fluid. He had seen several cases of basilar meningitis in which only a moderate amount of distention of the ventricles was found. In two of these cases the entire contents of the lateral ventricles would not have exceeded an ounce.

Cerebral Compression.—Dr. E. D. Fisher read a paper with this title. He said that, while he had nothing new to present, he thought that he could settle definitely the question of the influence of compression on the cerebral mass within the skull, and whether the cerebral substance was, *per se*, compressible without interference with its capillary circulation or function. Bergnamis and Adamkiewitz held that the brain substance was incompressible, the only conditions of change possible in the cerebral volume being those dependent on the displacement or variation in the cerebro-spinal fluid or the cerebral circulation, these standing in converse relation to each other. The question of the compressibility of the brain depended on which of the elements comprising the brain was most liable to compression; as the blood-pressure was higher than that of the cerebral fluids, it was possible that the tissue fluids were first affected. Much depended also on whether we regarded the liquor cerebri as a secretion or as a transudation from the blood-vessels, as in the latter case we should have to consider arterial tension as a very important factor in cerebral compression. The vascular center was situated not only within the medulla, but probably also within the brain—*i. e.*, the corpus striatum or optic thalamus. The brain possessed a mechanism of its own for increasing its blood-supply independently of increased cardiac action. Experimentally it had been proved that cold acted deeply within the brain. Its good effect was very marked in the headaches of anæmics, the ice-bag being an efficient remedy. The cold probably acted by increasing the blood-current rapidity in the capillaries, and by causing spastic contraction of the arteries. In these cases the amount of blood passed through the brain by increasing the rapidity made up in quantity for the quality, thereby maintaining the nutrition. The extent of a cerebral hæmorrhage depended on the arterial pressure or tension, the intracerebral pressure, and also on the resistance of the brain substance, the latter, of course, depending on the site of the hæmorrhage. Spastic contraction of the arteries of the brain really caused active hyperæmia, the decreased volume of the skull contents causing increased capillary circulation. Paralytic dilatation of the arteries caused passive hyperæmia, which was, in fact, anæmia, the blood being no longer in a proper state to carry on the nutrition of the brain, as the increased volume of the brain caused retardation of the capillary circulation, and probably also interfered with the venous circulation. The speaker's experiments had been made by exposing the pia mater and observing the changes produced in the blood-vessels. Extension of the sciatic nerve produced increased volume of the brain. Compression of the carotids caused marked loss of volume. Asphyxia caused expansion of the brain. Chloral caused anæmia, with marked contraction. Chloroform contracted the brain. Ether at first contracted and subsequently expanded it. Strychnine caused marked expansion, as did digitalis and small doses of alcohol. Caffeine and the acids caused expansion, while the alkalies produced the reverse result. From his experiments the speaker concluded that the blood-supply of the brain varied directly with the blood-pressure in the systemic arteries, and that the extensibility of the walls of the cerebral vessels allowed of great variation in caliber. The vaso-constrictor centers were excited directly by disturbance of the nutrition of the nervous system, as in anæmia, asphyxia, etc. Finally, the essential product of cerebral metabolism contained in the lymph-spaces bathed the walls of the arterioles and could cause variations in the caliber of the vessels, this mechanism reacted on the brain, and by this means the vascular supply could be varied locally according to local varieties of functional activity.

Dr. G. W. Jacoby said that the demonstration that the nerve tissue could be compressed in its molecules and anatomical elements had been professed by one author. Another had maintained the non-compressibility of these elements, but had further stated that the effect of hæmorrhage was due to anæmia of the brain. This was, as a theory, substantiated by comparing the clinical symptoms in such hæmorrhage with the symptoms caused by injecting lycopodium powder into the cerebral vessels, and producing thrombi. He then referred to the experiments of one who had demonstrated the displacement of the cerebro-spinal fluid. In one case in which rice was injected the aqueduct of Sylvius was found to be ruptured, and the lateral ventricles were flattened together. This experimenter had inferred that the very suddenness with which the compression was exercised had caused the violent displacement of the cerebro spinal fluid and consequent rupture. The same observer had also estimated very minutely the amount required to oppose the arterial tension, and had maintained that, if at any time an effusion took place on the surface of the brain to entirely balance this, death must result instantly. Dr. Fisher had pointed out the necessity of maintaining arterial tension, rather than depressing it, upon this very theory. It had been suggested that in cerebral hæmorrhage the head should be hung down to send blood to the head mechanically, and thus oppose the effusion which was taking place from the ruptured vessels. He did not know whether this had ever been put into practice.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of October 22, 1890.

Dr. E. H. Grandin in the Chair.

Hermaphroditism.—Dr. J. K. Crook described a case of hermaphroditism which had recently come under his observation.

Dr. Grace Peckham said that last spring she had occasion to see a woman whose external appearance was entirely masculine and in whom the genital organs were of a more pronounced male type than those described in the case of Dr. Crook. She had seen several cases of this kind in which the persons were dressed as women.

Dr. I. H. Hance mentioned a case in which Dr. McBurney had recently operated. By a plastic operation upon the male organ the person had been enabled to pass his urine in the erect posture. The sexual disposition of this person had varied according to the way he or she was dressed. When attired as a male the inclinations were those of a male and the reverse when dressed as a woman. Dr. McBurney had said he could not be certain whether the person was a male or a female. This hermaphrodite had a sister with exactly the same maladjustment of the genital organs.

Removal of the Tubes and Ovaries.—Dr. A. F. Currier showed several specimens, and described the cases, from a number of operations which he had recently done for the removal of the tubes and ovaries. Among these he mentioned a case in which the patient had shown decided evidences of tubal pregnancy. There was a history of profuse hæmorrhage. He had found a large tumor present. Another hæmorrhage was followed by collapse, the patient becoming unconscious and falling down stairs. The specimen presented was a hæmatoma and what had been thought by the speaker to be the remains of a tubal gestation sac. Examination had shown the presence of placental tissue. In one case the patient had had what had been diagnosticated as typhoid fever on the seventh day after the operation, but, after the attack had run a course, she had recovered. One patient from whom he had removed the sutures on the ninth day and had found a small abscess developed at the site of one of the sutures, had on the following day suffered a collapse, and he had been obliged to administer oxygen before she was out of danger. All the patients referred to had eventually done well.

Pregnancy complicated by Circumuterine Inflammatory Deposits.—This was the title of a paper by Dr. Ralph Waldo. He said there had been a time when he had thought that inflammatory deposits in the neighborhood of the uterus would in most instances prevent impregnation, and, if that was not the case, that abortion would occur in the early months of pregnancy. He then gave the histories of a number of cases illustrating the various phases of this problem. In looking over the histories of some of his cases, he had about decided that, while it was almost impossible for women with inflammatory products about the uterus to become pregnant, still many of them did so and some seemed to carry their children as if nothing was wrong. Others would abort a few times and then give birth to a child at term, while a third class would continue to abort during the whole of the child-bearing period. In carefully searching out a cause for this he had found that patients with inflammatory deposits about the uterus, who aborted habitually, in nearly every instance had the fundus of the organ bound by adhesions, and that the firmer it was fixed the more persistent were the abortions. He believed it to be of primary importance to ascertain the extent to which the body of the uterus was fixed before making a prognosis, for, if the body of the organ was immovable, and especially if it was retroflexed, he was of opinion that abortion would invariably result as long as the condition remained. On the other hand, there might be extensive deposits and adhesions about the lower part of the uterus, which might obstruct the passage of a child and which would still not cause the uterus to prematurely empty itself.

Dr. H. C. Coe said that it was not an uncommon thing to find conditions of old pelvic inflammation and the symptoms arising from them, and yet to have the woman go on to full term. The involvement of the tubes and ovaries was another thing. He should not expect a woman to go on to uneventful delivery if she had a well-developed salpingitis, with both ovaries prolapsed and fixed; still the adhesions did seem to stretch. The recognition of these circumuterine inflammations would be very difficult during pregnancy, and he did not know how one would go to work to treat such a condition at such a time.

Dr. Crook said that in cases where abortion occurred in the presence of these adhesions he had been inclined to refer the accident to a condition of endometritis rather than to the adhesions.

Dr. Currier thought that Dr. Waldo had made an important distinction in referring to adhesions at the fundus. They all knew of cases in which perimetritic inflammation had existed prior to pregnancy, and the patient had gone on to full term uninterruptedly. They had also heard of cases of well-marked tubal or ovarian disease in which pregnancy had continued to term. But he could not understand how this could be expected when the adhesions were attached to the fundus. It was hard to realize the immense amount of resistance which these adhesions offered. The endometritis was largely due to the irritation set up by the adhesions, and in the absence of these products of inflammation the endometritis alone would not cause abortion. He did not like the term "habit"; the body or its organs had no habits. This term and the word idiopathic should be expunged as applied to a departure from a physiological condition.

Dr. Grace Peckham said that gynæcologists recognized the fact that a general softening of the tissues took place in these perimetritic inflammations, and that they gave less trouble than might be expected. Still, the speaker was aware that the idea was prevalent that these adhesions would cause abortion or sterility. She was glad to indorse the opinion of the gentleman who had referred to a condition of endometritis as being a more frequent cause of the mishap.

The Chairman said that where there existed posterior adhesions, mentioned by the writer of the paper as prone to cause abortion at three months, it was certain that they would have to rise with the uterus or the fundus must become incarcerated. It was a question whether the adhesions themselves gave rise to the trouble or simply whether they did not give way soon enough and thus caused the uterus to empty itself; for, in the event of incarceration and development in the cavity of the pelvis, the uterus would have to throw off its contents. A woman was less likely to become pregnant when suffering from endometritis than to abort as the result of it.

Dr. R. A. Murray said he thought if these circumuterine adhesions were recognized early enough they could, by instituting proper treatment, be made to stretch. Any existing endometritis might also be sufficiently treated to allow of the woman going on to full term. It was often quite difficult, however, to say whether these women were really pregnant or whether the enlargement was due to the inflammatory products.

Exploratory Puncture of the Female Pelvic Organs.—Dr. George M. Edebohls read a paper with this title. He said that the scope of his paper did not embrace the subject of the diagnosis of the larger tumors of the abdomen, whether originating from the pelvic or abdominal organs, but concerned itself solely with the differential diagnosis of slight enlargements or masses, which were either situated entirely within the pelvis proper, or originated there, projected but slightly above the brim of the true pelvis into the abdomen, and which were recognizable only by combined abdominal and vaginal touch. As an aid in the differential diagnosis of these smaller tumors or masses, he had systematically practiced for two years past a method of exploratory puncture of the female pelvic organs which he had ventured to designate "abdominal puncture guided by combined vaginal and rectal touch."

The method as practiced was as follows: The skin of the lower part of the abdomen was disinfected as carefully as if laparotomy were contemplated. The middle finger of the left hand was passed into the rectum, the index finger of the same hand into the vagina, the ovary, tube, small tumor or mass to be punctured being located by the fingers. The rectal finger, if possible, reached around behind to the upper limits of the mass, the vaginal finger being applied to its lower pole. By combined palpation a point on the anterior abdominal wall, directly over the center of the mass to be punctured, was located by the carefully disinfected fingers of the right hand. At this point the sterilized needle was carried perpendicularly through the abdominal wall and all intervening tissues and organs into the center of the mass. The fingers in the vagina and rectum fixed the diseased structures, controlled the course of the needle, and guided it into that part of the mass it was desired to puncture. An assistant then drew the piston, while the operator's right hand firmly grasped the barrel of the syringe, thus steadying it and the needle. The armamentarium consisted of a syringe of a capacity of two drachms and an exploring needle two inches and three quarters long from shoulder to point. The diameter of this needle must not exceed No. 15 steel wire gauge. The method was only applied when a full and entirely satisfactory diagnosis could be reached without it. Abdominal exploratory puncture, guided by combined vaginal and rectal touch, as compared with vaginal puncture or with abdominal puncture as usually practiced, possessed the same superiority that was usually conceded to bimanual palpation as compared with either the vaginal touch or the abdominal touch singly.

He had practiced the method in over seventy cases without the least untoward result. The guarantees of safety to his mind were: (1) *Perfect* asepsis, (2) immobility of the syringe and needle, and (3) resistance of the temptation to bore about in the tissues with the needle.

In thirteen out of fourteen cases in which he had removed the appendages, on one or both sides, for pyosalpinx and ovarian abscess, single or combined, he had been able, by exploratory puncture previous to operation, to prove the presence of pus and the futility of any other treatment than by laparotomy. In a case of very small abscess of the right ovary, with normal tubes and left ovary, the objective signs had been so slight, almost indiscernible, that he would have refused to perform a necessary laparotomy, if exploratory puncture had not fortunately revealed pus. In a case in which aortic stenosis and a small tubo ovarian abscess of the right side had coexisted, and the patient had nearly died on the table on the occasion of an examination under chloroform, he would have emphatically declined to perform laparotomy unless positively assured by exploratory puncture of the presence of pus.

In three cases of hæmatosalpinx—one of them a probable early tubal pregnancy—he had been able to make the diagnosis by exploratory puncture, and, as a result, to avoid three unnecessary laparotomies. In a case of tubal pregnancy, in the eighth or ninth week, exploratory puncture, by demonstrating the presence of blood free in the peritoneal cavity, had furnished positive proof that rupture had taken place, the diagnosis being confirmed by abdominal section.

In a case of hydrosalpinx or small cystoma he had made the diagnosis by exploratory puncture and had declined to perform laparotomy.

In one case exploratory puncture had confirmed a probable diagnosis of parovarian cystoma.

In a case of fibroma uteri, exploratory puncture, by proving coexistent disease of the appendages, had decided a question of practical therapeutics, the choice lying between electricity and salpingo-oophorectomy.

In a case of tubal and peritoneal tuberculosis, exploratory puncture had furnished evidence contributory to a correct diagnosis.

In one case exploratory puncture had enabled him to diagnosticate the carcinomatous character of a small tumor involving the posterior wall of the caput coli, the appendix vermiformis, and the right ovary.

Exploratory puncture had in several instances taken the place of an exploratory laparotomy and rendered it unnecessary.

In conclusion, he would add, as a word of caution, that exploratory puncture, guided by combined vaginal and rectal touch, as here delineated, aspired to the dignity of a somewhat exact and scientific procedure. A *sine qua non* of its safe and successful employment was the possession of a fair degree of skill and experience in bimanual palpation of the female pelvic organs. He would therefore urge that the method be attempted only by those whose tactile sense was sufficiently educated by daily practice to enable them to apply it with the greatest probability of attaining good and of avoiding mischief.

The discussion of this paper was postponed till the next meeting of the Section.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

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Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

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THE NEW YORK MEDICAL JOURNAL, December 6, 1890.

Lectures and Addresses.

THERAPEUTIC PRINCIPLES GOVERNING THE SELECTION OF CARDIAC MEDICAMENTS.

TWO LECTURES DELIVERED IN THE COURSE ON THERAPEUTICS AT THE MEDICAL DEPARTMENT OF DARTMOUTH COLLEGE.
October, 1890.

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Lecture II.

Gentlemen: We will to-day endeavor to apply the knowledge we have gained of the principles which underlie the mechanism of circulation, and of the relations between circulation and other functions, together with the knowledge we have gained of the pathological conditions which may affect the circulatory mechanism, and of the powers over that mechanism possessed by therapeutic agencies—we will to-day endeavor to apply this knowledge to the study of the proper method of treatment of certain chronic diseases and disorders of the heart. Our limited time compels us to cover almost too much ground for a single lecture, while it likewise forbids elaborate consideration of all the topics that might be included in this study. We must select a few types and study these carefully. The principles thus learned will be easy of extended application in cases fundamentally related with these types, but varying in details.

Here, as elsewhere, our *therapeutic diagnosis*, which must be based on *comprehensive clinical diagnosis* and on *accurate pathological diagnosis*, is represented by a triangle. The base line is a definite determination of *what* we are to do; the second side is a definite determination of *how* we can best do it; the third side is a definite determination of *where* the remedy may be best applied, so that the *what* and *how* may be accomplished.

These three lines being drawn, the included surface represents our remedy, and we must find agencies to fill its measure. But dropping metaphor, which, if carried too far, becomes unmanageable and misleading, it is only after we have reached a positive determination of the *what* and the *how* and the *where* that the therapeutic *which* comes up as a question to be answered.

In other words, we must determine what properties ought to be possessed by the remedy which we are to use before we can intelligently select from among those known to us the agent, measure, or combination most nearly fulfilling the conditions.

But, as the concrete may be grasped more readily than the abstract, let me make this clearer by means of an example.

Let us take as the simplest example at command a case of simple dilatation of the heart without valvular lesion. With the symptoms of this condition you are familiar. In the natural order of studies they come first. It was the palpitation, dyspnœa, coldness of extremities, tendency to vertigo and syncope, incapability for exertion, weak, rapid, irregular, perhaps intermittent pulse, œdema more or less marked, that, together with the physical signs obtained upon auscultation and percussion, led to the diagnosis. Embarrassment of circulation due to an incompetent heart was the clinical diagnosis. Dilatation without valvular lesion was the pathological diagnosis. Simple dilatation, it is true, is very rarely, indeed some say never, encountered at autopsies. Still it is a condition precedent to some of the lesions ordinarily found post mortem; it is clinically recognizable, and it affords the best foundation for our studies. The cause of the morbid condition in this case is in the background. It may have passed away, but it has produced its effect, and that effect is, in the strict use of words, incurable. We can not by therapeutic measures restore the heart to its normal size. The indications, then, are to prolong life and promote comfort.

Here we draw the base line of our triangle. The "*what* to do" is to place this patient's permanently damaged heart in such relations with his other organs, and the patient himself in such relations with his environment, that life may go on as long as possible and with as little distress as possible.

The "*how* to do it" is the next point to be determined. Evidently there are two complementary indications. The one is to reduce as much as possible the work placed upon the heart—*indirect restoration of equilibrium*. The other—*direct restoration of equilibrium*—is to strengthen the heart as much as possible, and to so regulate its action as to get the best possible results from what strength it possesses; in other words, the maximum of product with the least expenditure of energy.

Then the "*where*" naturally follows; first we apply our remedial measures to the organism as a whole, and secondly to the heart.

The first thing to be done is to place the patient in as favorable a condition as possible in relation with his environment. We must reduce the activities of the body at large to the level of the impaired power of the heart, and therefore the patient must not be allowed to pursue a laborious occupation, or one which may make sudden demands for extraordinary exertion, either mental or physical. He must be protected from shocks and emotional disturbances of all kinds. This is always difficult and sometimes impossible of accomplishment. Still we must make the effort. And here a very delicate problem is to be solved. We must caution the patient against undue exertion or excitement, but must do it tactfully, lest we ourselves, by the manner of our caution, cause shock, and thus steer directly upon Charybdis while warning against Scylla. I know of a case in which the physician's unguarded announcement of "heart disease" directly accelerated the death of the patient.

According to the degree of dilatation, the patient's social status and previous habits of life, and the extent to which untoward symptoms have developed, the physician's advice as to occupation, rest, and exercise will vary. Absolute rest may be necessary for a while, if there be acute or severe symptoms of embarrassment of circulation or respiration, or if there be much dropsy. On the other hand, a certain amount of exercise—active or passive, or both—is necessary, whenever no counterindication exists. It is necessary in order that terminal circulation and internal respiration shall be kept up, in order that the products of waste shall be removed. It must be gentle and intermittent; never allowed to become fatiguing. Walking is the best form of active exercise, and this may be supplemented by such passive exercise as the simpler and gentler forms of massage—friction and stroking. A wealthy patient may be told to take short walks while his carriage follows him, with instructions to enter the carriage as soon as he has gone the prescribed distance, or sooner, should he feel the slightest indication or premonition of fatigue. In the city, patients who do not have carriages should walk on a street in which there is a car-track, and in the opposite direction to the cars, so that they may ride home, and be able to do this at any moment. Where this is impracticable the walk must be so divided that going and returning shall not be too much. In all cases the distance must be prescribed and not left to whim; at first very little—half a block, in the city—and gradually increased to whatever maximum may be judged to be proper. This maximum must always be a little short of what is deemed to be the limit of the patient's ability. It is always well if a walk can be broken by intervals of sitting. We can for this purpose let patients ride to a park or square, if in the city, so that in the square they may alternately walk for little whiles, and rest for little whiles on the benches. Massage should be employed as an adjuvant when walking is possible, and as a substitute for active exercise when the latter is impossible. It should not be practiced more than fifteen or twenty minutes at a time, except in special cases. It must be gently and skillfully done, the patient being in the recumbent posture. The lower extremities especially should be manipulated. As far as is wise in any individual case, the effort should be made to act upon the veins directly, so as to impel the blood centripetally, yet not in too great a volume for the heart to deal with. The principles set forth in our study of massage must be kept in mind. Should dropsy be present, the time and manner of manipulation would be governed accordingly. Electric applications are of service in some cases of dropsy, but the consideration of this measure must be postponed until we have studied the action of the electric current more in detail.

In some cases the patient will be able and may be permitted to engage in some light occupation which itself allows opportunities for moderate exercise, alternating with rest. In these cases no special walks will have to be advised and massage may not be needed. It is necessary to secure for all patients, however, a certain amount of time in the open air every fair day, during which they may sit, ride, or walk, according to circumstances. Where a sufficiency of outing can not be obtained, inhalations of oxygen or of compressed air may be administered. Compressed air is also of advantage in equalizing the circulation by its mechanical pressure-effects. This subject, however, will be considered more fully in another connection.

Still treating of the subject of environment, the effort should be made to occupy the patient's mind in a pleasant manner, so as to keep his attention from his symptoms as far as advisable or possible. All of his senses should be agreeably entertained, without undue excitement. The sense of taste must be especially consulted, in order that small amounts of the best-chosen foods shall be found satisfying. In the matter of food we pass from extrinsic harmony—harmony with environment—to intrinsic harmony—balance of function.

The first effect of impaired cardiac power is deficient circulation. As we have lowered the general muscular and mental activities—that is, exertions in relation with external environment—to the level of this impaired circulation, so must we lower what may be called the internal exertions to the same level.

Beginning our consideration of these with the digestive system, it is obvious that we must reduce the amount of work placed upon it, while at the same time the impoverished condition of the heart-muscle calls for the best possible nutrition. And not only must we endeavor to nourish the heart itself, but we must remember that, as a further consequence of impaired circulation all the organs and tissues have suffered in two ways—from lack of proper material for anabolism, and from defective removal of the products of catabolism. The blood is, to a greater or less degree, stagnating in the veins. It can not get back to the lungs to be purified. So that the comparatively empty arteries bring little new material for upbuilding; the overfilled veins retain the poisonous products of the breaking down of tissue. Therefore, while diminishing the quantity of food ingested, in order thus to diminish the work of the digestive organs, we must highly increase the nutritive value of the food as well as its force-producing value, and, as far as possible, diminish the amount of waste that will be left to deal with. Such foods then are to be chosen as, in our study of the subject of food, were found to fulfill the indications mentioned—milk, oils and fats, especially butter, a moderate amount of properly prepared meat, eggs, fish, rice, grapes and certain other fruits containing sugar, malt preparations, alcohol (malt liquors, sweet wines, and spirits) in moderation, and the green vegetables. Potatoes and other bulky foods are to be interdicted, as are all sorts of indigestible cookery. Predigested foods, especially preparations of peptonized beef, and such combinations of peptone and maltose as the "peptonized milk-gruel," are of great service. The digestive ferments are sometimes serviceable, as is also the administration of dilute acids, during or immediately after meals. According to circumstances, food may be taken frequently in small quantities, or in the ordinary manner of three stated meals. As a rule, a glass of hot milk or milk-punch should be taken at bed-time.

Respiration, being the "second digestion," must be properly performed. We have already spoken of exercise and of inhalations of compressed air and of oxygen. Solution of hydrogen dioxide in water or in ether (ozonic ether) may be given to supplement respiration by utilizing the stomach for the direct introduction of oxygen into the blood. The so-called "fifteen-volume" aqueous solution, properly diluted, may be given in doses of from one to four fluid drachms. The ozonic ether may be given in doses of one fluid drachm, with an equal quantity of glycerin, in enough water to make a tablespoonful. These agents also tend to slow and strengthen the heart. The cardiac medicaments, to be considered later, likewise favorably influence the respiration.

Extraordinary attention must be paid to the excretions, not only for the reasons already and sufficiently dwelt upon, but also to prevent dropsy from accumulation of fluids in the ill-nourished veins—a combination of circumstances under which transudation is most likely to occur. Fortunately, among the medicaments most appropriate to the cardiac conditions are several of the best diuretics and diaphoretics. In addition to these, the consideration of which we will postpone for a moment, agents acting upon the liver and the intestines must be employed, continuously or from time to time, as indicated.

Three indications are to be fulfilled by cholagogue and purgative medication. First, we avoid increased obstruction to the great portal circulation, already sufficiently embarrassed. Secondly, we can, by the use of suitable agents, remove from the circulation, by way of the intestinal vessels, a large amount of fluid, thus diminishing the volume of blood to meet the impaired propulsive power of the heart, and increasing the comparative richness of the blood in corpuscular elements. In cases of dropsy we actively resort to this method in order to secure re absorption of the transuded fluid to take the place of that removed by way of the bowel; but it is better to prevent dropsy by continuous mild purgation. The third indication is that of removing waste products, the importance of which by this time we fully understand. Sodium phosphate, euonymin and similar resins, rhubarb, Epsom salts, Rochelle salts, various mineral waters, calomel, and jalap, are among the most useful agents, the choice depending upon principles already laid down in discussing cholagogue and purgative medication. Calomel and Rochelle salts have the additional usefulness of a certain amount of diuretic power. It is especially in cases of cardiac impairment that the diuretic properties of calomel are most available.

Remedies to improve the condition of the blood itself are also to be administered. These might have been discussed in connection with food, but perhaps are better emphasized by the separation. Of these, iron stands first; next to it is arsenic. Chloride of gold and sodium, bichloride of mercury, and chloride of calcium may sometimes be useful for short periods in alternation with iron or arsenic. The principles which apply here we have already discussed in our study of the blood. Cod-liver oil stands prominently forth as a hydrocarbonaceous food and a blood-former of great utility. Phosphorus and its preparations, more especially the hypophosphites, may in some cases be advantageously combined with the cod-liver oil. Given alone, they are of little use in the class of cases under consideration.

And now, having placed our patient in harmony with his environment; having lowered his digestive work to the capacity of his circulation, and improved both the digestive product and the blood itself in accordance with the needs of the impoverished tissues; having done what we could to improve respiration so far as it can be improved independently of circulation; and having duly attended to the excretions—we can devote our attention to the organ which is itself at fault.

The first lesson to be drawn from the considerations thus far passed in review is this: That the diseased organ is not the only organ to be treated, and not always the first; and that direct treatment is not always the first or the best. It is very probable that the measures already adopted will so far have improved the heart by their indirect influence as to considerably modify the indications for direct cardiac remedies.

While this is the preferable method of procedure, yet there is another side to the question. It may be that, on account of the patient's necessities or the demands of his business, our advice as to rest and regulated exercise can not be carried out. Remember, this is the best advice. It is our duty to place before the patient the danger of neglecting it. Still it may be impossible to follow it. Then we must modify it to the exigencies of the occasion, and the choice of a remedy to act directly upon the heart will come up at once.

In the case supposed of simple dilatation without valvular lesion, the indication is "to empty the veins and fill the arteries"; and the best agent at our command is digitalis. The best preparation of this drug to use in the case supposed is the powder of the leaves, which may be made into pill and given in the dose of from one fourth of a grain to one grain or more, three times a day. The tincture may be employed in doses of from two to five drops or more, three times a day. Where a diuretic effect is specially desired the infusion is sometimes to be preferred in doses of half a fluidounce, night and morning.

By prolonging the diastole, digitalis increases the period of comparative rest; of anabolism. It gives opportunity for increased nourishment of the muscular tissue. It gives opportunity for an increased accumulation of energy to be later discharged in the systole. And by increasing the force of the systole it compensates for a certain part of the lost original vigor of the heart. By slowing the circulation, it diminishes the relative expenditure of energy in a given time. By its action upon the kidney, it increases the excretion of urine—both the watery and the solid constituents.

It may, however, have one untoward effect. It heightens blood-pressure by causing contraction of the arterioles, and thus to a certain extent opposes the cardiac contraction. Should this action be too pronounced, we can overcome it by the simultaneous administration of nitroglycerin, or other nitrite, as already explained. The nitrites, by dilating the vessels, and especially the peripheral vessels, invite the blood into the capillary circulation, and take off from the heart a great portion of its labor. As a matter of course, they must be cautiously employed, the smallest dose (one one-hundredth of a minim or less of nitroglycerin, three times a day) being given at first, and the quantity gradually increased until the desired effect is produced. In some cases nitroglycerin or nitrite of sodium may be given alone. The labor of the heart being thus diminished and its tone having been improved by nutritive measures, the administration of digitalis will not be necessary. This expedient is particularly useful in the treatment of fatty heart, in which digitalis, as we have previously seen, is, as a rule, counterindicated. In these cases arsenic and strychnine are extremely useful agents.

But to return to digitalis, we must remember what was emphasized in our special study of that drug—that no sudden change of posture is to be permitted during its administration. Especially dangerous is the change from recumbency to the erect posture. We must also avoid the risk of producing a cumulative effect—the nature and causes of which we have previously studied—and the best, as it is the most obvious, method to avoid this danger is the routine intermission of the use of the drug at intervals to be determined by all the circumstances of the individual case.

But what are we to substitute for digitalis during these periods of intermission, or in those cases in which it is not well borne, though apparently indicated? Of single agents, my own experience leads me to prefer strophanthus. Convallaria and adonis vernalis, or their active principles, and sparteine, a principle derived from scoparius, are also useful, and by some authors preferred. Better sometimes than any single agent is the combination of caffeine or cocaine with strychnine. Before discussing the other agents, then, let us briefly recall our knowledge of the action of caffeine and of that of strychnine, and see why it is that this combination is of such great utility. Strychnine, in the first place, is a general tonic, improving digestion and increasing the capacity of the individual for physical and mental exertion. In addition to this, it has distinct usefulness as an agent acting upon circulation and respiration. It affects the centers of organic life, heightening their impressionability and increasing the energy of their discharge. It thus acts by central influence as a stimulant to the heart and to the respiratory muscles. But it also acts peripherally upon the motor ganglia of the heart, directly stimulating and heightening the energy of their discharge. It also acts upon the muscular tissue itself, increasing the vigor of contraction, a fact of which we have abundant clinical evidence as to man, whatever may be the laboratory evidence as to animals. It is thus a catabolic agent; but the catabolism which it produces is an effective catabolism, giving the highest force-product with the least degree of waste. It has some tendency to heighten peripheral blood-pressure by contracting the vessels, but this is not always marked.

Caffeine, or perhaps we ought to say the article of commerce sold under the name of caffeine, but which, as Mayo has shown, is in reality a mixture of caffeine and theine—so-called caffeine, then, acts to some extent upon the nervous supply of the heart, but its chief action is upon the heart muscle. It increases very greatly the vigor of the systolic contractions and diminishes their frequency. It improves respiration both by directly strengthening the respiratory muscles, and indirectly by its action upon the circulation. It is a diuretic of no mean power. Like digitalis, caffeine raises the arterial tension, but in the case of caffeine this effect is not so likely to be excessive as it is in the case of digitalis; so that the conjoint use of the nitrites is not often necessary. A moderate elevation of arterial tension, if well distributed, is beneficial, as it secures a better distribution of the blood. In order to get the full benefit from caffeine it must be used in fairly large doses—five grains three times a day, for example. With this, from one sixtieth to one thirtieth of a grain of a strychnine salt may be combined. Where in an individual case, for any reason, a more rapid effect is desired than caffeine usually gives, we may have recourse to cocaine, which may be given *per os* in doses of from one eighth to one half of a grain, or hypodermically in doses not exceeding one fourth of a grain. For prolonged administration, however, caffeine is to be preferred. Where neither caffeine nor its combination with strychnine seems to be sufficiently stimulating—that is to say, where, despite the increased vigor of the cardiac contraction, it seems not to be sufficiently free—a minute dose of cocaine, say one sixteenth of a grain, may be advantageously combined with the other agents for continuous use for short periods, say a week or two at a time. In some cases, instead of adding cocaine to the pill, a good wine of coca may be given as a beverage in appropriate doses. The patient should also be advised, even while taking digitalis, to drink a cup of strong coffee at each meal and before going to bed. In a few cases of moderate impairment of cardiac vigor the drinking of strong coffee has sufficed to keep the patient comfortable, without resort to digitalis or other drug.

Now a few words as to *strophanthus*, which, as already said, I esteem more highly than any other agent yet brought forward to replace or supersede digitalis. This drug is not yet official, and it is difficult to get a reliable preparation. The tincture prepared according to the directions of Fraser, of Edinburgh, is the best. It may be given in doses of from one minim to ten, or in some cases, with due caution, even twenty minims, three times a day; or a large dose may be given at first and the impression maintained by small doses at shorter intervals. The duration of its effect gives to it much of its great usefulness. Its effects are similar to those of digitalis, in that it slows the rate of the heart, lengthens the interval between the contractions, and increases the vigor of the muscular action. This is thought to be due to direct action on the muscle substance, and not to any effect upon the nervous system. By its action on the heart it raises blood-pressure, producing diuresis. It does not, however, markedly contract the arterioles as does digitalis, and therefore compensatory use of the nitrites is not necessary. It does not disturb the digestive tract. A patient now under my care, in whom cardiac weakness is part of a general muscular and nervous degeneration, takes tincture of strophanthus and tincture of digitalis alternately and coincidently in the following manner: Having taken thrice daily for a week ten drops of the tincture of digitalis, he begins to diminish the quantity, substituting in each dose the first day a drop of the tincture of strophanthus for a drop of the tincture of digitalis. The second day two drops, the third day three drops are substituted; and thus during ten days the digitalis is diminished and the strophanthus increased *pari passu*, until finally the patient is taking ten drops of tincture of strophanthus and no digitalis. After a week of strophanthus he begins to substitute for it the digitalis, a drop at a time, reversing the previous process. This expedient has been found preferable in this particular case to either the uninterrupted continuance of either drug or an abrupt change from one to the other.

Strophantin, a glucoside derived from strophanthus, is given in doses of from $\frac{1}{120}$ to $\frac{1}{50}$ of a grain hypodermically, repeated at long intervals, perhaps of many days, as the effect is said to be quite prolonged. I have not yet acquired sufficient personal experience with the use of the glucoside to speak positively concerning it.

Convallaria and its glucoside, *convallamarin*, have received high encomiums from Sée and other authorities; but, as I stated when considering this drug, neither clinical experience nor laboratory studies warrant a decided expression of opinion in its favor. In some cases it is highly useful as a substitute for digitalis, but it frequently disappoints us. Its properties as a diuretic are more constant than its power over the heart. It may be that the uncertainty and disappointment I have experienced in the use of this drug are to be ascribed to imperfect preparations rather than to the drug itself.

Adonis vernalis and its glucoside, *adonidin*, have been found useful by so eminent a clinician and careful observer as Da Costa. My own experience with this drug is very limited, but is satisfactory as far as it has gone. It is similar in its action to digitalis both in its effects upon the heart and vessels and its diuretic properties; but is much more powerful, and its use is said not to be attended with risk of cumulative action. At present it is employed chiefly as an adjuvant to digitalis or a temporary substitute therefor, though it is said to succeed sometimes when digitalis fails. According to some authorities it is even more likely than is digitalis to produce symptoms of gastro-intestinal irritation (nausea, vomiting, and purgation). There is no official preparation of adonis. An infusion is made (one half to two drachms of the root to six fluidounces of water), of which the dose is half a fluidounce every two to four hours. Adonidin is given in doses of from an eighth of a grain to half a grain, repeated as necessary.

Sparteine, derived, you will remember, from broom, may be given (as *sparteine sulphate*) in doses of from one sixteenth of a grain to three or four grains, the ordinary range being from half a grain to two grains. It has received high encomiums both from experimenters and clinicians, and is recommended in the warmest terms by so practical an observer as Bartholow. Nevertheless, I must confess to my own frequent disappointment in its use, perhaps because I have not yet mastered the art of administering it. There is undoubtedly much in the art of administering remedies. As two painters will produce different effects with the same pigments—the inimitable glow of Turner's Venetian scenes, or the blush of shame that o'erspreads the skies of his copyists—so may two therapeutists produce different effects with the same drugs differently applied. I have, however, in some cases, found sparteine fully equal to my expectations. In these its most marked properties were a comparatively rapid action and a regulating power—that is, a power to render steady and continuous the previously unsteady and intermittent heart-beats—even superior to that of digitalis. In these cases the drug was given in small doses, repeated four or five times during the twenty-four hours. They were not, however, cases of simple dilatation such as we are now discussing, so that perhaps the conclusion is justifiable that the peculiar virtues of this drug are better applicable to the relief of those disordered conditions of innervation and muscular action which are manifest in the more advanced stages of valvular lesions. When effective, the action of the drug continues for twelve or twenty-four hours, and, according to some authorities, even longer. Sparteine has considerable diuretic power, though, as a diuretic simply, it is, in my experience, inferior to the infusion of broom. There is, however, this drawback to the use of bulky infusions in the treatment of cardiac disease—that the quantity of fluid ingested is likely to be disadvantageous.

Erythrophlœum is a drug which may eventually be found useful in the treatment of weak hearts; at present its use is almost exclusively confined to the laboratories.

Barium chloride has a limited degree of applicability, and I have had a few satisfactory results from its employment, more especially in the treatment of the overacting heart and relaxed vessels of exophthalmic goitre, but, as was stated in discussing this agent, I can not advise you to resort to it until greater experience has been accumulated as to its exact range of usefulness.

We are now perhaps in a better position to illustrate by a further refinement the extended application of our therapeutic triangle, *what*, *how*, and *where*. As we used it in solving the main problem of the line of treatment, so we can, indeed must, however unconsciously, use it in solving special problems as to details of treatment. In the selection of a drug to act upon the heart we can choose one which affects principally the nerves, or one which affects principally the muscles, or one which acts upon both. Or, again, in its action upon the nerves a drug may slow the heart by depressing the motor apparatus—cerebral, peripheral, or communicating; or it may slow the heart by stimulating the inhibition apparatus—central, peripheral, or communicating. In Brunton's most admirable treatise, to which I again acknowledge my own great indebtedness, you will find suggestive data for the study of this phase of the subject. That which makes digitalis preferable in most cases to all the other drugs mentioned is the fact that it acts both on nerves and on muscle, both on inhibitory and motor apparatus, and that the result of this combined action is to slow and strengthen the heart, by a stimulating effect throughout, without depression of any kind. For the same reason the combination of caffeine and strychnine is useful. It is true that in studying digitalis we classed it among the cardiac sedatives as well as among cardiac tonics. But, as I then stated, its sedative power is the sedative power of strength; the irritation which it calms is either the irritation of weakness or the irritation of loss of control. Wood's article may profitably be consulted on this topic.

When sedation is required for a heart which is acting too rapidly or too powerfully, because it is too strong, digitalis is not an appropriate sedative. If I ask the class to mention the drug which, above all others, should be used to quiet an hypertrophied heart, you answer "*aconite.*"

In our study of aconite we recognized in it a depressant *ab initio.* Digitalis, if pushed too far, may paralyze by exhaustion. But aconite is a paralyzing agent from the first. It depresses nervous function without much interference with muscular power *per se.* While it is true that experiments on normal animals have not revealed any such property, I feel warranted in saying that its prolonged administration, in perfectly safe medicinal doses, seems, clinically, to cause a certain degree of retrograde metamorphosis in hypertrophied heart-muscles, probably by influence on trophic nerves, or, in other words, by interference with anabolism. Its peculiar field of usefulness is in cases where we wish to reduce power, and hypertrophy without valvular lesion may serve as a type of these cases.

In a case of eccentric hypertrophy due, we will say—as in the case of a blacksmith I have in mind—to excessive muscular exertion, the *what*, *how*, and *where* are self-evident.

We can not materially alter the condition of the heart-muscle. We must avert evil consequences by regulation of the patient's life and by the use of agents to diminish the force of the heart's action. Now, regulation of the patient's life does not imply that we are to increase his exercise up to the level of his heart's overaction. If we could by so doing increase the size of all his organs, including the skeleton, proportionately—in other words, if, having a gigantic heart to deal with, we could, by prescribing giant's work, transform the patient into a Goliath—that would be the proper line of treatment; but this is manifestly impossible. Even the heart itself is not the subject of regular and proportionate enlargement; the left ventricle, in the case we are considering, being disproportionately increased both in capacity and in the thickness of its walls. We must, therefore, paradoxical as it seems, prescribe rest. It is not necessary in the ordinary case—that of the blacksmith whom I have mentioned, or that of athletes, a class of men who frequently suffer from a similar condition—to prescribe absolute rest in bed, except in the presence of urgent symptoms. We must, however, at once interdict the overexertion which has brought about the morbid condition. Furthermore, while permitting sensible exercise, we must not allow it to be too prolonged; and all sudden or violent exertion must be absolutely prohibited. Alcohol, tobacco, immoderate eating, and mental excitement must be avoided. To prevent straining at stool, the diet must contain laxative elements, and an occasional mild purge be exhibited. All conditions which tend to disturb the circulation, particularly in the abdomen and in the lungs, must be guarded against.

The quantity of fluid taken into the stomach should be limited. In the presence of symptoms of cerebral hyperæmia a hydragogue cathartic may be used to unload the vessels. A blister may be applied to the nape of the neck, and wet cupping of the chest, or even venesection, may be performed in urgent cases. As a rule, however, rest and the administration of aconite will avoid necessity for bleeding. The dose of the tincture of aconite root will vary from one to five drops, which may be given three times a day or at intervals of two or three hours according to circumstances. Sometimes it is well to begin with larger doses, and as the influence of the drug becomes manifest to diminish the dose to as little as will keep up the effect. Very often one drop twice a day will be efficient. In some cases, however, comparatively large doses will need to be continued, or at all events to be resorted to, from time to time, for five or six days together. Diluted hydrocyanic acid in doses of from two to five drops, diluted hydrobromic acid in doses of from ten to thirty minims, potassium bromide in doses of from ten to thirty grains, potassium iodide or sodium iodide in doses of from five to ten grains, may be used as adjuvants to the aconite, or in its place. Belladonna has been recommended. I have no experience in its use in this connection, for to my mind it seems counterindicated, its action, as we have seen, being both to increase the rapidity and the vigor of the heart's action and to raise the arterial tension, except when the opposite effect results from paralysis by exhaustion due to large doses.

There is, however, one condition of overaction of the heart in which belladonna is of considerable service—namely, in the irritable, irregular, and feebly overacting heart of some cases of tobacco poisoning. In this condition the combination of belladonna (which is in these cases preferable, by reason of its antispasmodic properties, to its alkaloid, atropine) with strychnine, digitalis, or caffeine has in my hands proved useful.

The difference between this condition and the condition of excessive strength we have been considering is at once rendered evident by the fact that digitalis has been enumerated as among the agents usefully combined with the atropine. Diluted hydrocyanic acid, cimicifuga, musk, the bromides, and especially monobromated camphor, often act beneficially in this disorder. Sodium iodide in small doses is also useful.

Having firmly fixed in our minds, then, the principles which should guide us, and the measures which may be most usefully applied in the treatment of dilatation with weakness, and hypertrophy with excessive power, apart from valvular lesion, and having briefly alluded to the pseudo-hypertrophy of irritation by tobacco, we have now to consider how our treatment is to be modified when either of these conditions coexists with a valvular lesion. We can do this more briefly on account of the wide range which our previous studies have taken. It will be self-evident that where hypertrophy coexists with a valvular lesion, being itself not alone the physical result of that valvular lesion, but also Nature's "spontaneous healing," in the sense in which we have agreed to use this term, it will be self-evident that where such hypertrophy is in degree merely enough to compensate for the damaged condition of the valve there is no occasion for therapeutic interference. Conversely, when a valvular lesion has been thus compensated by hypertrophy, the condition of the valve affords no indication for therapeutic interference. Should the hypertrophy be excessive—that is, more than sufficient for compensation—just in the degree that excess exists will such excess afford indication for treatment with aconite or a bromine salt, or both. In the majority of cases, however, even when the lesion—for example, mitral regurgitation—is compensated by ventricular hypertrophy, it is necessary to adopt, to some extent, the hygienic measures which we discussed at length in the case of simple dilatation, for the hypertrophy which balances mitral regurgitation is to be looked upon as potentially a condition of dilatation. It becomes actual dilatation when it no longer suffices to overcome the obstruction to circulation brought about by the regurgitation. This is called *rupture of compensation*, and the treatment then is almost exactly that of dilatation, both hygienically and medicinally. In other words, in cases of mitral regurgitation the main indication for treatment is afforded not by the condition of the valve, but by the condition of the muscle relatively to the valve. Clinically, the rational symptoms—that is to say, the condition of the circulation and respiration, the presence or absence of dropsies—are the data upon which we base our opinion as to whether or not compensation exists.

Somewhat different indications are afforded by aortic stenosis, for here not alone the condition of the muscle, but that of the valve itself must be considered when the selection of medicaments becomes necessary—that is to say, when compensation has been ruptured. For example, we can not resort to digitalis to strengthen the muscle, as we would in a case of mitral regurgitation with ruptured compensation, on the principle that the condition is practically a condition of excessive dilatation. Digitalis, as we have seen, raises peripheral blood-pressure, and would thus cooperate with the obstruction at the aortic orifice in opposing exit of blood from the ventricle. By lengthening the diastole, it would permit a quantity of blood to enter the ventricle beyond the capacity of the ventricle to empty itself, thus increasing the embarrassment. If regurgitation coexists with the stenosis, as is usually the case, the lengthening of the diastole would also permit a greater reflux from the aorta into the ventricle. The net result, then, of the action of digitalis in aortic stenosis would be to overfill the ventricle, and any increase of power of contraction which it would give might tend to drive the blood backward through the mitral orifice, rather than forward through the obstructed aortic orifice; for it would be quite possible for the gradual increase in the size of the heart, which has been brought about by the lesion, to have rendered even an intact mitral valve relatively incompetent and not able to withstand any great strain. Blood, like everything else, moves in the direction of least resistance.

If now we apply our therapeutic triangle, we see that *what* we want to do is to get the blood out of the ventricle as quickly as possible, and to have the ventricle again moderately refilled as quickly as possible. *How* to do this is to increase the rapidity of the contractions and to diminish the intervals between them. A moderate degree of increased vigor is, of course, necessary in order to overcome the obstruction; and, further, systemic blood-pressure should be lowered as far as is consistent with movement of the blood into the veins. These conditions are fulfilled by using a combination of atropine and strychnine, in conjunction with nitroglycerin or nitrite of amyl. The atropine, in addition to its power to hasten the rate and increase the vigor of the cardiac contractions, is, like strychnine, a stimulant to respiration also, while the nitroglycerin keeps the arterial tension within the required limits. The truth of this theory was abundantly demonstrated to me by a case under my care at the Philadelphia Hospital last winter, which I have recorded in detail in the forthcoming volume of the *Philadelphia Hospital Reports*. In this case mitral regurgitation coexisted with aortic stenosis, and the rapid amelioration of symptoms which took place under treatment was quite gratifying. A pill, containing one sixtieth of a grain of atropine sulphate and one thirtieth of a grain of strychnine sulphate, was given three times daily, and nitrite of amyl was given in doses of five minims, dissolved in a fluidrachm of alcohol, every three to four hours as necessary.

In cases of mitral stenosis—that is to say, when the flow of blood from the left auricle into the left ventricle is impeded—the indications are (1) to prolong the ventricular diastole so that as much blood as possible may get through the narrowed orifice; (2) to strengthen the heart muscle so that the auricular contraction may be as effective as possible; and (3) when this lesion coexists, as it often does, with mitral regurgitation, to lower peripheral blood-pressure. The hygienic measures already discussed—iron and arsenic as nutritives, strychnine and caffeine as cardiac tonics—fulfill the two indications of uncomplicated stenosis, while digitalis and the nitrites are useful in cases complicated with regurgitation.

Aortic regurgitation remains to be considered, for uncomplicated tricuspid lesions and lesions of the pulmonary valve are very rare, and it will not be worth while to consume any of the brief time left to us in their discussion.

There has been much difference of opinion as to whether or not digitalis should be used in cases of aortic regurgitation. As has been more especially pointed out by Bartholow, the rational symptoms rather than the pathological condition must be our guide. It will be easily seen that undue prolongation of the diastole will permit greater regurgitation, and that when compensation can be brought about without digitalis this drug had better be omitted. Nevertheless, the increased force which results from the digitalis action may be sufficient to more than balance the increased regurgitation which it permits, and in many cases it proves useful. It is, as will be readily evident upon reflection, most efficient in those cases of aortic regurgitation which coexist with mitral disease. My advice, then, would be, in any case of aortic regurgitation, to postpone the use of digitalis until other measures have proved inefficient. The most useful combination of medicaments which I have employed is that of atropine, strychnine, and caffeine, with the occasional use of the nitrites. The principles which dictate this combination you have already been sufficiently familiarized with. In all cases, of course, those measures of hygiene which bring the patient into harmony with his environment, and which aid in restoring the internal balance of function independently of the medicaments, are to be as carefully prescribed as in the case in which we considered such measures at length.

There are other measures than those mentioned which might have been considered had time permitted. The effects of heat and cold, the use of opium as a sedative and as a heart-tonic in small doses, might have been enlarged upon. Camphor, and especially the monobromated camphor, musk, ergot, cimicifuga, veratrum viride, and other drugs which have a certain usefulness in special conditions, deserve more than mere mention. But we have had to choose the best and the most generally applicable measures; and then, too, we have alluded to the virtues of these agents in our previous studies. What I most regret is our inability to make a special study of so-called cardiac asthma, and of the measures which more particularly improve the pulmonary circulation. But with some reflection the principles we have applied to the relief of the systemic circulation may be applied to the pulmonary circulation also. Indeed, as both suffer together, both must be relieved together.

I will only say further in this connection that I believe venesection would frequently relieve a laboring right heart, and should be resorted to more than I have as yet dared to do. Hydragogue purgation, wet-cupping, dry-cupping, counter-irritation, the use of the nitrites, are among the most efficient measures at our command.

In conclusion, then, the first problem which presents itself in the treatment of chronic diseases of the heart is to determine whether or not Nature herself has brought about restoration of equilibrium. Where this is the case, the function of the therapeutist is so to guide the life of his patient as to postpone to the furthest time possible the rupture of compensation. When compensation has been ruptured, or in cases where it has never been established, the first duty of the physician—unless urgent symptoms, such as ascites or thoracic effusions, call for immediate measures to meet the emergency—is to institute those hygienic measures which shall restore extrinsic and intrinsic harmony. After this, if medicaments are necessary, their selection should be based upon a careful study of all the conditions of the individual case, taking due account of the mental and physical characteristics of the patient.

Hernia of the Falloppian Tube.—"At the Leipsic Obstetrical Society, Dr. von Tischendorf read notes of an interesting case of femoral salpingocele. The patient was an elderly woman, with symptoms of strangulated femoral hernia. The sac appeared, before operation, to contain omentum. When opened, no omentum was found, but the left Falloppian tube much enlarged on account of œdema. It bore, close to the ostium, a prominence of the size of a cherry, caused by dilatation of its walls. This prominence fitted into a corresponding depression in the hernial sac. Both tubes and sac were removed; recovery was uninterrupted. Dr. von Tischendorf could only find four cases of the kind reported in medical literature, and of these, two occurred many years since."—*British Medical Journal.*

A Test for Fæcal Matter in Water.—Paradiazobenzolsulphuric acid made feebly alkaline in a twenty-per-cent. solution will, when added to water which is contaminated with fæcal matter, show a yellowish coloration within five minutes.—*British and Colonial Druggist.*

Original Communications.

A SUBMEMBRANOUS LOCAL TREATMENT OF PHARYNGEAL DIPHTHERIA.

By A. SEIBERT, M.D.,

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Primarily the diphtheric process is a local disease. It is caused by the invasion of bacteria into the mucous membrane of the respiratory tract, which produces an inflammation of the invaded region. It is now conceded by most bacteriologists that in the majority of cases of diphtheria the bacillus found by Klebs and Loeffler is the chief cause of this disturbance. Inoculations of cultures of this bacillus upon guinea-pigs and rabbits, as well as bacteriological research by clinicians like Heubner, leave little doubt in this direction.

Yet other pathogenic germs besides this one may enter the mucous membrane in company with the Loeffler bacillus in a large proportion of cases, thus causing clinical pictures varying as to the aspect of the membrane produced, as well as to the extent, more or less pernicious character, and duration of the diphtheric invasion. If from a purely practical standpoint one might venture to suggest an idea not exclusively belonging to clinical experience, I should say that to my mind these varying pictures of the diphtheritic process in different cases (though often observed in the same epidemics, at the same time, and in members of the same families) were caused by the *different proportions* of these different kinds of bacteria, entering the mucosa at the same time, so that where other pathogenic germs than the true diphtheria bacillus of Loeffler were in the majority, this most pernicious micro-organism did not find the surroundings favorable enough for a full development of its growth, and was curtailed in its action on the human tissue by this fight for place, so as to only result in more or less milder forms of diphtheria. At all events, we at the present time, mindful of the works of Oertel, Brieger and Fraenkel, and others, may logically assume that the more bacilli of Loeffler are found in a given case of diphtheria, the more fatal its prognosis, and the smaller the quantity of these germs in a case, the milder its form.

Roux and Yersin have again called attention to a pseudo-bacillus of diphtheria, having no virulence, but otherwise very much like the true germ, which appears to become virulent when associated with Fehleisen's coccus of erysipelas. If this can be so, then other bacteria may have the power to decrease the virulence of others.

The changes brought about in the tissues of mucous membranes by the invasion of the bacteria causing diphtheria have been elaborately demonstrated by Oertel in his great atlas. The histology of the pseudo-membrane proper has found a most careful student and explicit demonstrator in Heubner. He has examined the pseudo-membrane in cases from five hours to six days old, and his results have thrown considerable light on the diphtheritic process. In a drawing from Heubner's work, showing the normal conditions of the epithelial layers of the tonsillar mucosa of a child (Fig. 1), we find the upper layer to consist of flat, horny, the middle of round, and the lower stratum of oval-shaped epithelial cells, below which last we notice large round cells, connective tissue, and blood-vessels. Heubner found that even the first noticeable trace of the diphtheritic pseudo-membrane (taken from the tonsil five hours after the beginning of the attack) consisted of an exudate coming from *the inflamed blood-vessels*, which after wandering upward with the numerous leucocytes (white blood-corpuscles) between the oval and round cells of the epithelium, lodged between the horny upper cells and there coagulates, imbedding within it numerous bacteria. This stream of exuding fibrin, from below upward, keeps on steadily as long as the action of the bacteria upon the blood-vessels and their surrounding tissue progresses, ultimately resulting in all the epithelial layers being permeated, distended, and infiltrated by this coagulated fibrin, so that (as Heubner has it) while in the beginning of a case the exudate is imbedded between the epithelium, in advanced cases the epithelium (or what is left of it) is imbedded in the exudate (Fig. 2, taken from Ziegler's *Pathological Anatomy*).

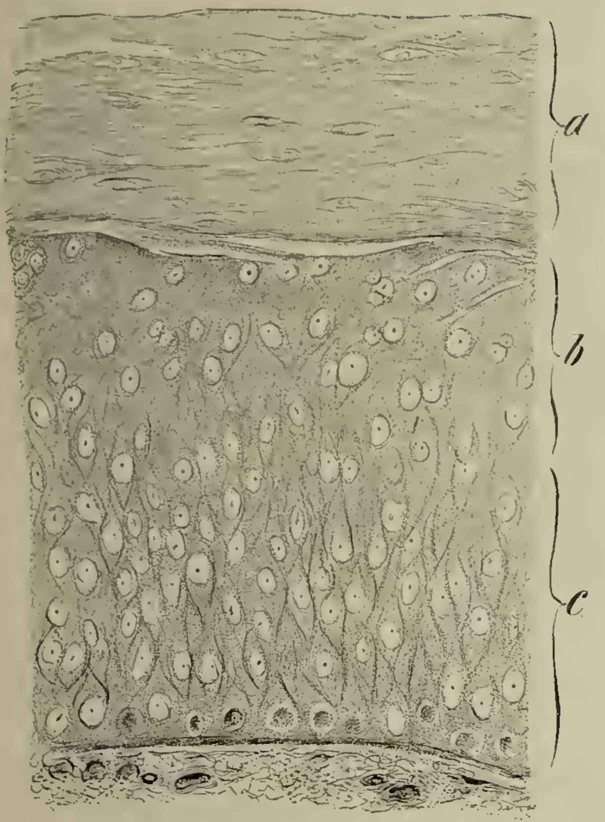

FIG. 1.—*a*, upper epithelial layer; *b*, middle epithelial layer; *c*, lower epithelial layer; below, the connective-tissue layer of the mucosa.

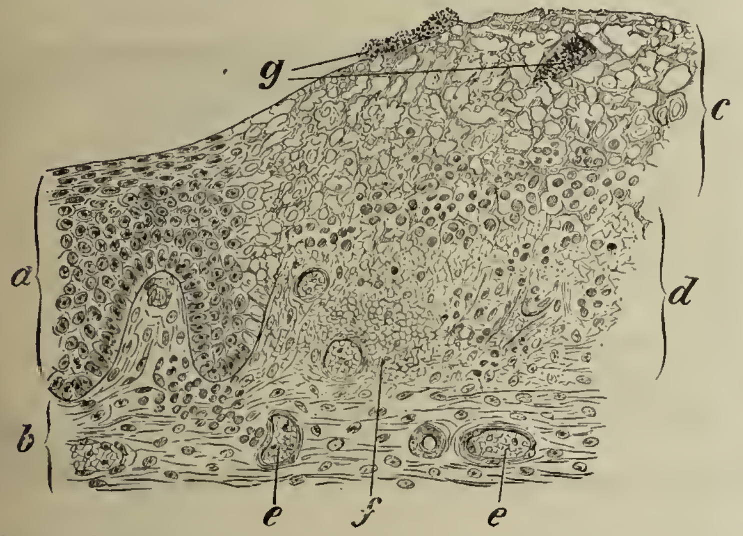

FIG. 2.—*a*, epithelium; *b*, connective-tissue layer of the mucosa; *c*, false membrane; *d*, infiltrated lower epithelium; *e*, blood-vessels; *f*, extravasated blood.

The practical lesson we may learn from these facts is that the appearance of the pseudo membrane is the sure sign of bacterial action upon the *lower* layers of the mucosa, directly below this sign of this invasion.

All investigators unite in stating that far more bacteria are found in the epithelium and the pseudo-membrane than in the tissue below. No doubt many of the active bacteria are carried away by the circulation after penetrating the blood-vessels, and others are carried upward with the flowing exudate, to be imbedded in the coagulated mass at the periphera.

L. Brieger and C. Fraenkel have lately demonstrated the chemical body produced by the action of the Klebs-Loeffler bacillus upon the albumin of the pseudo membrane, which getting into the circulation produces the different varieties of diphtheric paralysis. This ptomaine, called by these authors "toxalbumin" of diphtheria, is produced in but small quantities in the early stages of each case, but the larger and older the diphtheric area, the more toxalbumin is produced. Injected into the circulation of animals, this toxalbumin invariably produces paralysis.

The conclusions as to the treatment of diphtheric patients we may logically draw from these facts are:

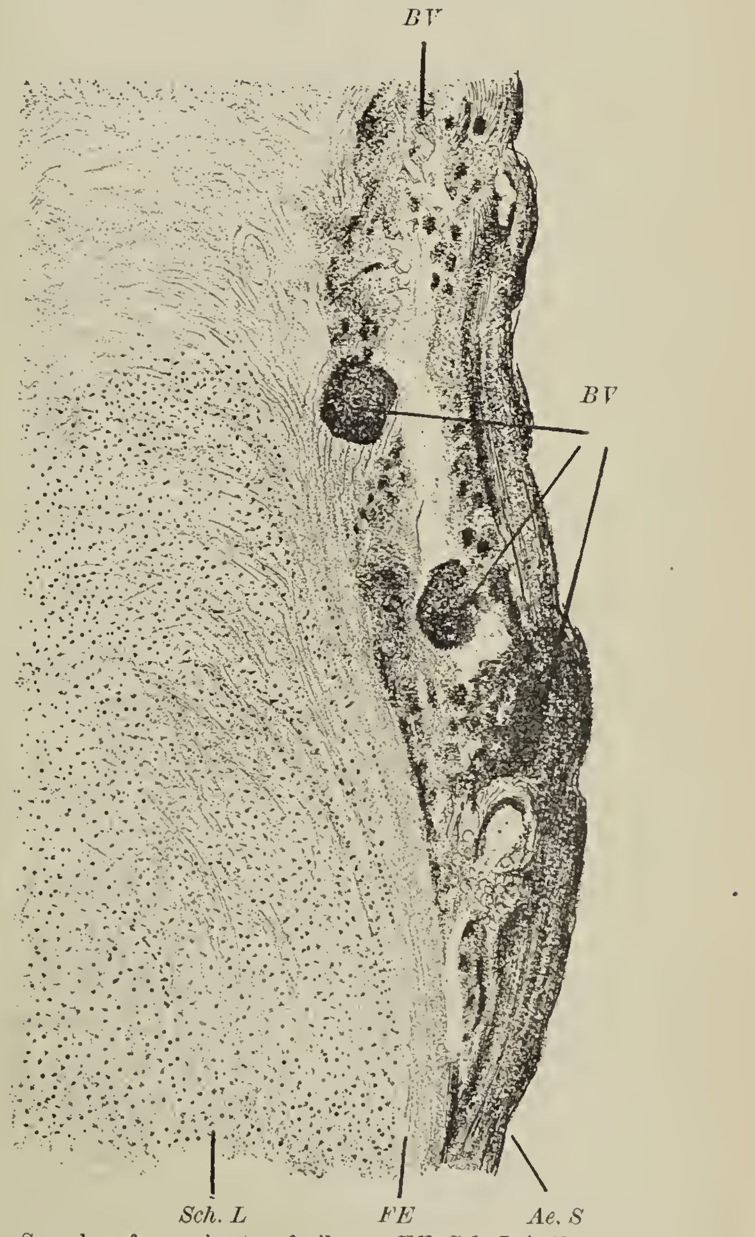

FIG. 3.—*Ae. S*, eschar from nitrate of silver; *FE*, *Sch. L*, infiltrated mucosa; *B V*, bacteria.

1. The pseudo-membrane is an exudate coagulated in the epithelium coming from the deeper layer of the mucous membrane, and therefore not the disease, but the result of it.

2. Hence all treatment attempting to dissolve or to forcibly take away this pseudo-membrane *is to no purpose,* as it does not in the least affect the diphtherically inflamed parts.

3. All medicines given by the mouth for the purpose of entering the invaded region of the mucosa are of no use whatsoever in this direction, as they can not possibly penetrate the coagulated fibrin and swollen epithelium to reach the bacteria producing this affection.

4. All local applications of strong caustics—as the galvano-cautery, nitrate of silver, etc.—are of no avail, as the diphtheric germs are far beneath the reach of these agents (Fig. 3, action of nitrate of silver upon diphtheric mucosa. Oertel, Plate No. XVI).

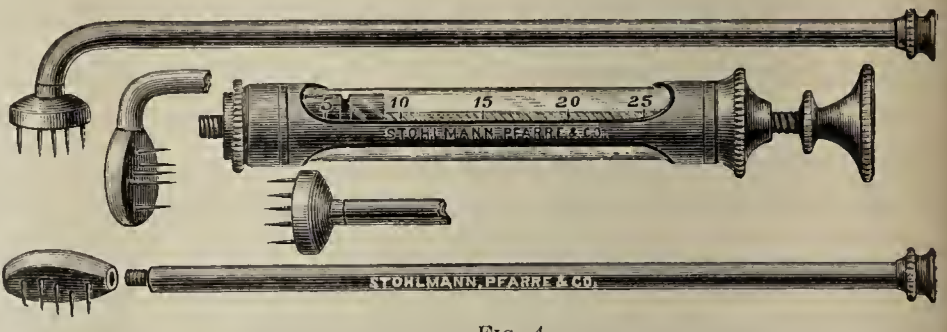

FIG. 4.

Tests of Loeffler and others have shown that the bacteria causing diphtheria can not be destroyed at all by weak antiseptic solutions. The bichloride of mercury, for instance, given internally, dissolved in 10,000 parts of water, could not destroy this bacillus even if it were completely surrounded by it. Given as it is in teaspoonful doses by the mouth, it passes gently over the pseudo-membrane into the stomach of the patient, from there into the circulation, and the little of it that may come in contact with the bacilli in the diseased mucous membrane can possibly be of no account in even retarding their action. As this remedy is one of the strongest antiseptics known to act upon bacterial life and in particular upon the Loeffler bacillus, it at once appears superfluous to speak of the legion of other drugs which for decades back have been proposed for the treatment of this dreadful disease.

So we can but admit that the methods so far employed in attempting to aid the human organism in resisting this bacterial poison and its products have accomplished but little, if anything at all, *because the remedies we were compelled to use are too weak and because they do not reach the seat of this pathological process.* After coming to this conclusion and throwing aside all superfluous clamor, it behooves us to now attempt to remedy these faults of treatment.

The first imperative necessity brought before us, then, must be to bring whatever remedy we have in direct contact with those bacilli which are in full action upon the tissues. As we can not possibly use the knife and cut down upon the lower stratum of the mucous lining of the tonsils and the pharynx, we must devise other means to bring our drug to the right spot.

For this purpose I have devised an instrument, consisting of three parts: (1) A hypodermic syringe, (2) a tube strong and long enough to reach the pharynx, and (3) a small hollow plate which can be screwed on the end of this tube, holding the points of five hollow needles. When screwed together, these three parts form a firm, handy, and pliable instrument that may easily be introduced over a child's tongue, pressing it down, the points of the needles pointing upward into the pharynx.

Supposing we had a fresh case of diphtheria, and a pseudo-membrane of the size of a pea on the side of the right tonsil. The needles, the tube, and a part of the syringe being filled with an antiseptic fluid, the instrument is passed over the tongue to the tonsils, the returned toward the pseudo-membrane, and, by a quick and gentle pressure, the needles are plunged through the pseudo-membrane and some of the mucosa surrounding it. Now, while three fingers of the left hand hold the instrument in this position, the fluid is gently pressed out of the syringe proper and *into and below the inflamed mucosa beneath the pseudo-membrane.* The plate only permits of the needles passing into the tissues to the depth of an eighth of an inch, all told. The needles are then withdrawn, and the remedy is in contact with the seat of the disease.

Five points are used, as I have thought it wise to deposit five distinct little masses of remedial fluid, because the latter would thus cause less inconvenience by pressure, would cover a greater area, and be more readily distributed in the neighborhood. If gently performed, this little operation causes no pain, at least not in adults and children that are sensible enough to speak for themselves. The fluid remains in the tissue, and, as a rule, not a drop of blood is lost.

The curved catheter-shaped tube may be attached to either one of the two plates, so that by the four different combinations any part of the visible pharynx, and even the rear surface of a large tonsil, may be reached.

Intratonsillar injections with a single hypodermic needle have been employed by Heubner in the treatment of scarlatinous amygdalitis for the last eight years, and but lately he has again recommended their use (with a three-per-cent. solution of carbolic acid), yet he does not employ them in primary diphtheria, knowing well that a single injection into the depth of a tonsil would not reach the disease, would be quickly absorbed, and could not be employed in the other parts of the pharynx. But lately, in speaking of diphtheria, he discards all active treatment.

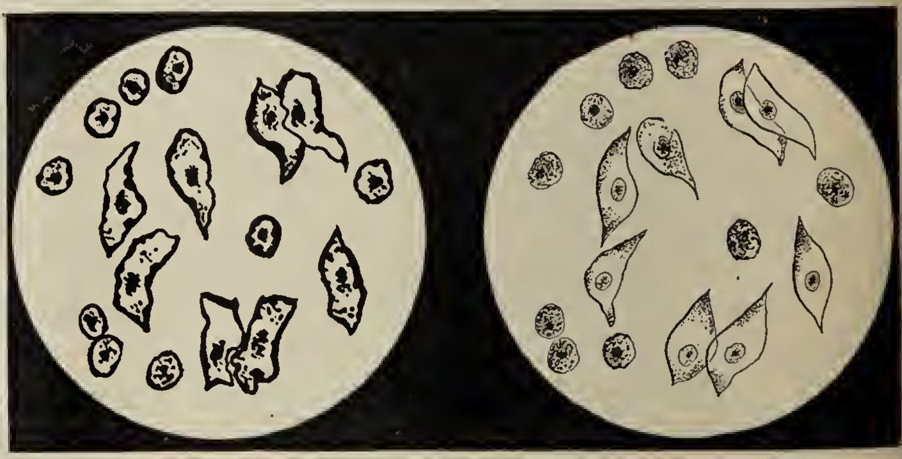

FIG. 5.

It appears to me of the greatest importance to bring the drug directly *into and below* the diseased part, and to introduce the needles *through and around* the pseudo-membrane. The active bacilli in the *lower* stratum of the mucosa will thus be reached, the tissues there thus made uninhabitable to further possible invasions from above, the exudation must cease, and the whole process come to a standstill. The pseudo membrane, on the other hand, is the *only true guide* to the diphtheric inflammation below it.

After having convinced myself (by practical tests on numerous patients suffering from various throat affections) of the pliability of this diphtheria syringe, I naturally looked about for a remedy for injection. Carbolic acid in a three-per-cent. solution had a good effect on a few cases of tonsillar diphtheria—cases that might possibly have ended as favorably under the use of chlorate of potassium or salt water. To really have a germicidal action, it appeared to me to be essential to use a *very strong* antiseptic—one that would immediately destroy the vitality of the Loeffler bacillus. Here a strong solution of the bichloride of mercury suggested itself, but so far I have been too timid to make use of it. Aniline had lately been mentioned as a non-poisonous antiseptic, and encouraged by Dr. von der Goltz, of this city, who had used the pure aniline in a solution of 1 to 1,000 in a large number of gynæcological and obstetrical cases as an antiseptic wash, apparently with marked success, I concluded to make some experiments to first test its possible poisonous action on the animal system and then its possible antiseptic properties. Assisted by Dr. von der Goltz, I injected four grammes (one drachm) of a ten-per-cent. alcoholic solution of aniline under the skin of a cat, above the gluteal muscles. Thirty minutes after this injection the animal ate a hearty supper, and, after having shown not the slightest sign of poisoning (no change of heart action or respiration in particular), it was killed rapidly by a large dose of chloroform. On section, I found that the aniline had permeated all tissues surrounding the point of injection to the extent of about three inches, and in particular the muscles. A piece of muscle was then put into a large test-tube, and about a teaspoonful of my own saliva added to it. As bacteria are always present in the oral cavity and as I had no cause to think that they were of a particularly virulent type, I argued that, if at all antiseptic, the large quantity of aniline in this muscle would prevent any noticeable bacterial action for some time at least. After forty-eight hours this muscle, soaked full with aniline, was in a high state of decomposition, giving a most offensive smell and showing grayish discoloration on its surface. This simple test was sufficient for me to discard aniline as an antiseptic.

J. Geppert (Bonn), in a series of painstaking experiments, tested some of the stronger antiseptics now in use as to their action upon the anthrax bacillus. I can here but briefly mention his results, showing that this bacillus will live for days in a 7 per-cent. solution of carbolic acid; if hanging in the fibers of a silk thread dipped into a solution of the bichloride of mercury of 1 to 1,000, will live and thrive if removed after twenty minutes; and if spread on a cover-glass and dipped into the same solution, will breed cultures if removed after five minutes. The next tests were made with chlorine water (aqua chlori) of a 0·2-per cent. solution and of a 0·15-per-cent. solution, which all resulted in showing that the anthrax bacillus was destroyed in ten seconds if brought in contact with this antiseptic, while a 1-to-1,000 solution of the sublimate could not do the same work in fifty seconds. Geppert furthermore showed that that antiseptic was most powerful which was capable of penetrating those media containing the micro-organisms. This also was found to be chlorine. Moist strata are permeated more readily than dry ones. The disinfecting action is a chemical one.

Instigated by these important tests of Geppert's, I resolved to try the action of chlorine water upon the diphtheritic process. Three points had to be considered: (1) if it was safe to inject a 0·2 per-cent. solution of aqua chlori into the tissues without poisonous effect; (2) to determine the local irritation and readiness of absorption if injected; (3) to see if chlorine water would penetrate coagulated blood-albumin and tissue, like epithelial cells and leucocytes.

To determine the safety of hypodermic injections of chlorine water, I injected half a gramme of a 0·2-per-cent. solution of it under the mucous membrane lining the mouth of a white rabbit weighing four pounds and a half. Another rabbit of the same age and weight was kept for comparison. No poisonous symptoms appeared. Even a whole syringeful of this solution, injected hypodermically in the gluteal region, did not impair the animal's health in the least. The injections below the mucosa of the upper lip plainly showed a hard zone for days, evidently due to coagulation of albumin caused by the chlorine after the water had been absorbed. From these experiments I concluded that (1) it was perfectly safe to inject this chlorine water into the mucosa of a child, and (2) that the local irritation caused was not of any account, and that the chlorine evidently immediately went into chemical combinations with the surrounding tissues and was but slowly absorbed. To see if chlorine water would penetrate coagulated blood albumin, Mr. Otto Amend was kind enough to experiment. His answer was an affirmative one. To see if epithelial cells and blood-corpuscles were acted upon, I took a drachm of urine of a patient suffering from pyelitis and purulent catarrh of the bladder, divided the portion in two equal halves in two test-tubes, and added five drops of the chlorine water to the one. After shaking, I took a drop of this mixture and placed it under the microscope. Another drop was taken from the other tube, containing the unmixed urine, upon another slide. Upon comparison, we find that the drop containing urine with chlorine water shows the white blood-corpuscles and epithelial cells acted upon in such a way that their borders look heavy, thickened, and somewhat irregular, the nuclei and nucleoli dark and irregular, and corpuscles as well as epithelium look as though their pictures had been first drawn by pencil and then overdrawn by ink. The constituents of the non-chlorated urine show clear, transparent, and light pictures. (Fig. 5.)

Repeated experiments always gave the same result. Evidently the dark, heavy spots and borders of corpuscles and epithelium were the work of the chlorine and the result of a chemical change caused by the contact of this drug with the albumin of these tissues. I deduced from this that if chlorine would even penetrate the epithelial cells and the white blood-corpuscles, it certainly would invade every particle of mucous tissue it came in contact with.

I now made chlorine-water injections into the hypertrophied tonsils of adults. Two large drops, divided into five equal proportions by the five needle-points, were injected at one time. The inconvenience caused was hardly noticeable. A sense of pressure appeared, which left the patient after a few minutes. The introduction of the needle-points was hardly felt by the patients.

Being now prepared to use this method and this drug, I made two injections into the tonsillar mucosa of a child of three years, two drops of the 0·2-per-cent. solution being used in each tonsil. This little girl was suffering from a fresh attack of diphtheria of three days' standing, both tonsils showing well-marked pseudo-membranes of doubtless diphtheric character. Glands of neighborhood infiltrated; temperature, 103° F. Sister of child had died of diphtheria a few months before. Injection at 5.30 P. M. Temperature at 9 P. M. down to 101°, and 99° F. next morning. The surrounding parts were now pale, while at time of injection the whole pharynx seemed very red and œdematous. Pseudo-membranes drop off in two days. Appetite of child appeared four hours after injection.

In my second case (a boy, aged two years and three quarters, whose sister had died of malignant diphtheria ten days before) I found diphtheric inflammations on both tonsils, which were in a state of enormous chronic hypertrophy. The right tonsil presented a fresh pseudo-membrane, while the left showed a spot of about a quarter of an inch in diameter, looking as though a drop of milk had fallen on it and spread, the very first sign of a pseudo-membrane. Temperature, 101·75° F.; infiltration of glands; vomiting. Injections, 10 A. M. At 4 P. M. temperature normal; appetite. Pseudo-membrane dropped off within thirty-six hours.

Cases III, IV, and V were very much like this one, all three patients being relatives of Case II.

Case VI.—Boy of four years. Visited a family where a child had been sick with diphtheria three months before. Boy was given toys of this child, especially a trumpet, which had been used by the diphtheric child during its illness. Forty-eight hours after this visit symptoms began. I did not see the child until four days after the visit. Diagnosis: Diphtheria of both tonsils and sides of pharynx, stenosis of larynx, trachea, and larger bronchi, due to diphtheric invasion. Injections of chlorine water through both pseudo-membranous patches in pharynx. Twelve hours later pharynx pale, no extension of pharyngeal diphtheria, the œdema of soft palate subsided; stenosis worse. I now intubated the larynx, bringing but partial relief, as disease had previously extended far below the reach of the O'Dwyer tube. Two days later the child died of paralysis of the heart, but the day before the pseudo-membrane of the pharynx had disappeared entirely. Though in private practice, the parents gave their consent to a post-mortem, which showed an exquisite extension of the diphtheric process all along the bronchi of the first and second order, with formation of pseudo-membrane. The specimen was demonstrated to my class at the New York Polyclinic immediately after the autopsy.

Case VII, the last I shall report, concerned the nine-year-old brother of the little girl in Case II. Illness began suddenly with severe headache and vomiting. Twenty-four hours later I found a dark, slate-colored pseudo-membrane about half an inch in diameter on both tonsils. The whole pharynx œdematous, very red; the uvula much enlarged. Swallowing very difficult. Glands swollen. Temperature, 102·75° F. It needed the assistance of the O'Dwyer-Denhard gag and of three men to overcome the struggling of the boy to succeed in making the first submembranous injection. The second one could be made easily, as the patient lost all fear after the first one, and stated: "If that's all, you can do it again." At the next visit the throat was pale, the swelling reduced markedly, the temperature 100·25° F., the feeling of illness entirely gone, and boy asking for beefsteak. The pallor of the mucosa surrounding the pseudo-membrane was as distinct in this case as in all others. The œdema of the uvula and soft palate had diminished considerably. The next day the general improvement persisted, the left tonsil losing its pseudo-membrane till evening, that of the right growing smaller to one half of its extent. But, as the temperature showed a rise again to 101·5° F., I looked for and found a new diphtheric patch on the side wall of the pharynx back of the right tonsil. I concluded to make another injection at this point, which now was done without the slightest resistance from the boy and without the aid of spoon or gag. Next day both tonsils were clean, temperature was normal, and the pea-like pseudo-membrane disappeared by evening.

These seven cases (from private practice) demonstrate fully—

1. That this method of treatment can be employed without inconvenience and danger to children.

2. That the chlorine water, thus brought in contact with the Loeffler bacilli and the inflamed parts, evidently tends to check their career in the mucous membrane and to shorten the disease.

3. That it seems worth while to give this method a full trial.

One word more about the handling of the apparatus: The chlorine water must be kept cold and dark, and is best carried constantly with the instruments in an outside overcoat pocket. This will insure purity and correct strength of the solution and, before all, will avoid delay, for the sooner the injection is made the better the prognosis of the case. I do not expect to influence cases by this method where the diphtheric inflammation has spread over the half or whole of the oral cavity, and I hardly think that I would make any attempts at using it, but I have good cause to think that we may prevent such spreading by these injections almost with certainty if employed in time.

The needles and the whole instrument are easily disinfected by the same chlorine water and soap and water externally; the inner surface, never coming in contact with diphtheria, is nevertheless disinfected by the chlorine.

The needle-points must be wired carefully and the whole syringe cleared of the chlorine water thoroughly. Of course some corroding will come in time, and a new needle-plate will now and then be necessary; but what is that in comparison to what we may accomplish with it?

Whether the chlorine water will remain the best chemical to use or not, I am not prepared to say. Other remedies may also be used with effect.

In speaking of future methods of treatment in an article published last February I said: "If we now vaccinate organisms into the circulation of healthy persons to prevent disease, why may we not come to impregnating micro-organisms into those already diseased?" And so I hope to see the day when Koch or one of his pupils will give us a lymph that we may inject into diphtheric tissues. By that time my little instrument may be so improved that it will fully answer this purpose also, yet till then even, I am convinced, it will help to save children from an early grave if employed in time.

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PERINEAL CYSTOTOMY *VERSUS* SUPRAPUBIC CYSTOTOMY.*

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In the choice of a method of operation we should be governed, first, by its safety; second, by its simplicity of performance; third, by its rapidity of result; fourth, by its general applicability in the majority of cases. It is my purpose in this paper to present briefly my views concerning the two methods of entrance into the urinary bladder—viz., perineal cystotomy and suprapubic cystotomy.

An all-wise Providence evidently intended that the bladder should be emptied from its most dependent point. Our fathers in surgery, guided by this idea, followed it out by attacking the bladder through the perinæum for the relief of disease, foreign bodies, or obstruction.

One Pierre Franco, in 1556, from force of circumstance, opened the organ from above. Others, at long intervals, did likewise, but all condemned the procedure, largely on account of its high mortality, until Garson and Peterson demonstrated by distention of the rectum the easier approach to the bladder by the sectio alta.

Since the revival of this method the medical press has teemed with fulsome praise of its brilliant results by many advocates, while few have had the temerity to say aught against the tidal wave of opinion in its behalf.

I am aware that I am in the presence of gentlemen distinguished in this department of surgery who do not agree with my views.

It may seem to you presumptuous on my part to offer them from my limited experience, having operated in but five cases, with but one recovery, and by your indulgence I will report them.

Case I.—J. B., aged fifty, first came under my observation in June, 1887, for severe hæmorrhage from the bladder, with a history of the trouble of this viscus of three or four months' standing. His previous history was good, with the exception that, eight years ago, his left arm was severely crushed by a falling trip-hammer, and at that time I removed it just below the shoulder joint. The hæmorrhage was controlled by large doses of ergot. Blood was always present in his urine after this, with evidences of more or less cystitis. The microscope never revealed anything further, but, from exploration of the bladder with a searcher, I have no doubt about the presence of a growth. Medication and irrigation were of no avail in abating his symptoms. On November 25, 1887, as he was gradually failing, he consented that I should operate upon him. At this time reports by various operators were made in the journals extolling the excellence of the suprapubic method, especially for the removal of tumors of the bladder. I therefore concluded that this was a suitable case for its trial. He entered St. Mary's Hospital on November 28, 1887. On December 2d, having undergone thorough antiseptic preparation, I did the operation. As I did not have the rubber colpeurynter, I used a soft-rubber ice-bag, tied on to a No. 16 English catheter, and distended the rectum with ten ounces of warm water, also injecting eight ounces of boric acid solution into the bladder. The incision was about three inches and a half in length, in the median line, to the symphysis, and down to the prevesical fat, which was pushed and torn aside with the finger-nail. The bladder was then seized with two tenacula, and a longitudinal incision made between them. As soon as the boric acid solution had run out there was no difficulty in feeling a tumor projecting on each side and behind the vesical outlet, having its origin from the prostate, although previously I had not been able to recognize any enlargement of the gland by digital examination of the rectum. The tumor was removed piecemeal with the curette, altogether probably of the size of a small egg; it proved to be an epithelioma. The bleeding was profuse, but controlled with hot boric-acid solution. A drainage-tube was introduced and the bladder sutured with catgut, while the abdominal wound was closed with several interrupted sutures of silk. The drainage-tube was of sufficient length to empty into a vessel containing a twenty-per-cent. solution of carbolic acid. On December 3d the patient passed a restless night, with evident dribbling of urine alongside of the tube. On the 4th the condition was the same, with a temperature of 100·5°. On the 5th the temperature was 101·5°; there was constant escape of urine from the wound with suppuration along the course of the sutures. He gradually grew worse, with a varying temperature of 100° to 104·5°, and died on December 28th. The wound never closed, and the whole lower portion of the abdomen, together with the scrotum, was excoriated, as a result of the constant presence of urine. His condition was pitiable, especially for the last two weeks that he lived, although extra effort was made to keep him dry with frequently-renewed dressings. A post-mortem was not permitted.

Case II.—A. L., a Bohemian, aged thirty-seven, first came under my care on May 1, 1888, with a history of previous gonorrhœas, and an operation for a stricture in the deep urethra by external perineal urethrotomy two years before coming to see me. He had a marked chronic cystitis, without evidence of any involvement of the kidneys. It was quite evident from his history that he had had at the time of the urethrotomy a cystitis which had never got well. Although you have observed that my first experience was disastrous, yet, in view of cumulative authority, I again decided to venture the attempt of another suprapubic cystotomy, as this was certainly a proper case for this method. The operation was accordingly done on June 2d, after the manner of the case just described. He did fairly well for ten days, although suffering severely from the presence of the tube, when it was withdrawn, and the wound kept open by the daily introduction of a catheter. From this time on he gradually grew worse, and died on July 10th, evidently by the extension of the disease to the pelves of the kidneys, and possibly the kidneys themselves; yet I was unable to verify this, from the fact that I was out of the city at the time and no autopsy was made

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* Read before the Mississippi Valley Medical Association at its sixteenth annual meeting.

Case III.—M. H., aged seventy, had been a sufferer for over fifteen years from mechanical obstruction of the urine. I saw him for the first time in October, 1888; his prostate was enormously enlarged, and he had all the symptoms common in such cases. I did not see him again until February 6, 1889, in consultation with Dr. Longyear, of Detroit. At this time he was suffering severely from a frequent desire to void his urine. The microscope revealed large quantities of pus, some blood, and epithelial cells, and shreds of tissue that he passed I found to be portions of a sarcomatous growth. I explained to him the possibilities of a suprapubic cystotomy, to which he consented. I did the operation on February 18, 1889. The colpeurynter was distended with about six ounces of water, and that with difficulty. The bladder I found to be of small capacity, holding but a little more than two ounces of the boric-acid solution. In cutting through the bladder it gave the impression as if cutting through cartilage. Introducing my finger, I perceived that most of the bladder was infiltrated with a growth undoubtedly having its origin from the prostate. It was so extensive in character that I did not attempt even to remove any portion of it. A drainage-tube was introduced, through which urine continued to flow until his death, which occurred on March 15, 1889. He died from exhaustion, the natural result of the disease, and not, in my opinion, hastened in the least by the operation.

Case IV.—N. B, aged fifty-nine, a fairly healthy farmer, consulted me, March 14, 1889, for obstruction of urinary flow, necessitating the frequent use of a catheter. Examination revealed a very large prostate, an immense residuum of urine, and a considerable cystitis. He was very desirous that something should be done in the way of an operation, as he had been more or less of a sufferer for five years. Dr. Hunter McGuire's report of excellent results following suprapubic drainage for the relief of enlarged prostates encouraged me to make another trial. The patient entered Harper Hospital on March 21, 1889, and was operated upon on the 23d. For two days he did well, with the exception of constant severe pain and the usual excoriation from the overflowing urine. On the third day he was attacked with peritonitis, although I am certain that no injury was done the peritonæum at the time of the operation. His condition gradually became worse, and he died on the 30th. Unfortunately, the friends objected to an autopsy.

Case V.—A. S., a German, aged seventeen, small for his age, was sent to me by Dr. D. Inglis on January 8, 1890, with a history of painful micturition dating back to the time when he was two years of age. Examination with a searcher revealed a large and hard calculus. Although my previous record was bad, and as this seemed a favorable case, I decided to again try the suprapubic method. He was sent to Harper Hospital, and on January 10th I operated. The usual antiseptic precautions were observed, both preparatory and immediate. He was chloroformed and the rubber colpeurynter introduced into the rectum and filled with six ounces of warm water, and immediately the bladder was distended with an equal quantity of boric-acid solution. This amount of fluid was sufficient to indicate the presence of the bladder above the symphysis. The further steps of the operation were similar to those in the preceding cases, somewhat tedious on account of hæmorrhage, and a mulberry calculus was removed weighing three hundred and twenty grains. The incision in the bladder was carefully closed with interrupted catgut sutures and the integument coaptated with three deep silk sutures, leaving an opening below for a small drainage-tube. The ordinary antiseptic dressings were applied and a rubber catheter was introduced through the urethra into the bladder for draining off the urine.

January 11th.—During the night, owing to pain from the presence of the catheter, the patient pulled it out, and it was quite apparent that the urine was forcing its way through and alongside of the drainage-tube in the wound, showing that I had failed to close the bladder completely. The catheter was again introduced, but its presence was so painful that it had to be removed, and, in spite of all that could be done, the urine continued to flow through the wound.

12th.—For the last twenty-four hours the temperature has ranged from 100° to 102°, indicating that, although we had taken extra precautions for thorough antisepsis, it was evident that our patient was suffering from septic infection. I mention this fact for the reason that several operators speak of the beauties of healthy urine as an antiseptic—to my mind a delusion that should not ensnare any operator, whether his operation is suprapubic or perineal. From this time until January 18th the temperature varied from normal to 102°. The whole of the lower portion of the abdomen and scrotum was excoriated; although extra care was taken to keep him clean, yet the parts were constantly wet with urine.

23d.—The wound was sufficiently closed for the entire urine to pass through the urethra.

29th.—He left the hospital; the wound was completely healed, and he was able to retain his urine for three or four hours.

The perineal method of reaching the bladder is the oldest known to us, although numerous modifications have been made since the hap-hazard "cut on the gripe" for stone was first done. For the removal of stone, litholapaxy undoubtedly stands pre-eminent, and can be done upon subjects from three years of age upward, yet there are numerous restrictions to this method, such as stricture of the urethra, a large-sized stone, an enormous prostate, etc. There can be no question, when cutting has to be done, that the medio-bilateral method presents the best advantages, and I can no better illustrate what I wish to say than by quoting the conclusions of Dr. W. T. Briggs, president of the American Medical Association, in his paper, The Choice of Operations for the Removal of Vesical Calculi in the Male: "First, that it opens up the shortest and most direct route to the bladder; second, it divides parts of the least importance; third, it is almost a bloodless operation; fourth, it affords a passage for the removal of any calculus which can safely be removed through the perinæum, and is the best route for free drainage; fifth, it reduces the death-rate to a minimum."

The treatment of enlarged prostates with cystitis is equally efficacious by the perineal section and drainage, in behalf of which I will report the following case—one of many that I have treated in this manner:

O. P., aged seventy four, with a history of prostatic enlargement for twenty years, came under my observation on January 7, 1890, through the kindness of Dr. C. Raynale, of Birmingham, Mich. Until about a year previous he had been able to relieve himself with a catheter, and since that time the desire to void urine had been almost constant, so that he rarely held it more than an hour. I explained to him the possibilities of a perineal section, and after mature deliberation on his part he consented, and I operated on January 10, 1890. The principles of modern surgery were religiously observed. After dividing the urethra as far as the prostate, I discovered an unusual median projection, which I divided down to the floor of the prostate. The bladder was thoroughly irrigated with a 1-to-10,000 bichloride solution. For a drainage I used a No. 16 common English catheter with about six feet of rubber tubing attached. The catheter was held in place by a silk thread attached to an abdominal band, care being taken not to permit the point of the catheter to touch the fundus of the bladder; this can be prevented by placing next to the perinæum two or three thicknesses of gauze, and then tying the thread guys close to it on the catheter, over which the other dressings are then applied. It is not necessary to remove the dressings for several days, until all danger of sepsis is past. The tube should be conducted into a vessel containing an antiseptic solution. On the first night following the operation he slept nine hours—something he had not done for years. The bladder was washed out daily with a boric-acid solution through the drainage-tube. For the first ten days he remained in bed; after that he was permitted to sit up and take an occasional walk. During March he had an attack of grippe, to which he nearly succumbed. On July 15th he came to my office informing me that he had just returned from presiding over a two days' session of the Michigan Pioneer Society. He still wears a rubber tube which he keeps closed by a wooden plug, removing it every four or five hours, whenever he wishes to empty his bladder. I was of the opinion, and so informed him, that it was unnecessary to wear it longer, but, as he had had such comfort during its use, he refused to dispense with it.

It is undoubtedly true that by the suprapubic section we are better able to observe a tumor of the bladder, yet it is quite possible with a searcher to recognize its location and size with reasonable accuracy; if more is needed we can resort to the cystoscope. Further, I see no reason why it is not as easily removed through the perinæum as by the high section. In looking up the literature at my command of suprapubic operations since 1883, I find in the record of between three and four hundred operations an average mortality of 30 per cent. A few operators have had a series of cases ranging from three to ten without a death. The most remarkable record in this respect is that of the distinguished surgeon Dr. Hunter McGuire—twenty-one operations with but a single death. When, however, we compare the many thousand operations by the perineal method of different collectors, and find a mortality of but 5, 6, and 7 per cent., rarely going beyond 9 per cent., I must go back to my original propositions and conclude: First, that it is a safer operation; second, that it is a simpler operation; third, that it is more rapid in its results; fourth, that it is adapted to more cases than that of suprapubic cystotomy.

Prescribing Liquors.—"During the recent heated political term in South Carolina a convention met at the county site. The town being a 'dry' one, delegates suffered much from thirst, which fever a thrifty physician sought to allay by prescriptions of whisky and beer. The size of one dose, a dozen bottles, attracted the law's attention, and the medical man is now in the law's clutch. From this he attempts to rescue himself by pleading his professional privilege, but the judge says that while 'prescription' is broad enough to cover a black draught, it lacks elasticity enough for a dozen black bottles."—*Druggist's Circular and Chemical Gazette.*

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THE KOCH TREATMENT OF TUBERCULAR DISEASE.

It is not to be wondered at that the popular and professional interest excited by Professor Koch's announcement of his discovery of a remedy for tubercular disease should be sustained until something decisive occurs, but it is rather remarkable that it should be manifested by certain doings and projects that we have rumors of. Since our last issue, absolutely nothing has been made known that goes far to confirm or to disprove the contention that the remedy is really capable of exerting the curative influence that Koch supposes it to possess, although the announcement has been made that he himself considers his work in the matter at an end and is about to enter upon investigations having for their purpose the preparation of similar antidotes to other infectious diseases.

Physicians from all parts of the world continue to flock to Berlin with the hope of learning something more about the nature and use of the contratubercular "clear, brownish liquid," which the newspapers are practically unanimous in calling "lymph," than is to be made out from what has been published on the subject. As we have said before, it is exceedingly doubtful if they will succeed in their object to any noteworthy extent; nevertheless, we have made arrangements by which anything important about the matter that may be learned by one of them in Berlin will be given to our readers promptly. The worst that is likely to happen to these gentlemen, however, is waste of time; it is far different, unfortunately, with the subjects of tuberculosis who are undertaking a pilgrimage to a distant city. Besides the fact that the efficacy of the Koch treatment is far from being established, there is almost the certainty that the great majority of these sufferers will not have an opportunity to be submitted to it until after their strength has been so exhausted as to seriously impair the probability of their deriving from the treatment whatever benefit it may be capable of conferring under favorable circumstances.

The arrival of specimens of the curative liquid is now expected by several physicians in this country, and it is announced that certain hospitals have set apart wards for patients on whom its virtues are to be tested. If adequate supplies are received, the profession here will soon be able to furnish data on which to found a judgment as to the value of the supposed discovery.

Koch still keeps the secret of the nature of the liquid, and it is intimated that it is his intention to continue to do so for the present. Whatever justification there was for that course at the outset does not seem to be intensified, but rather weakened, by the march of events. The profession will not long rest content with being told that there is too much danger of their making deadly blunders in case they should try to make the product for themselves. It is stated that the German Government intends to go into the business of making it, and it is announced that that Government has already provided handsomely for carrying the treatment into effect and for Koch's other studies. In the mean time, there are reports of a few deaths having occurred under circumstances that naturally give rise to the suspicion of their having been due to the injections. It still remains to be seen whether Koch's treatment of tubercular disease rests on a wonderful discovery or on a delusion; but, whichever may turn out to be the case, it will undoubtedly lead to processes that will eventually develop our mastery over disease most notably.

SURGERY AND CRUELTY TO ANIMALS.

It is unfortunate that an experiment in bone surgery now in progress in one of the hospitals of New York should have been made the subject of sensational newspaper reports on the one hand, and of condemnation in some of the newspapers on the other. We have reference to the insertion of a segment of a dog's bone into a vacuity in the bone of a boy's leg, the segment being still connected with its original source of blood-supply, so that the dog requires to be kept almost motionless for a long period, and otherwise treated by restraining measures. All this, of course, would be inexcusably cruel if it were done wantonly or with no sufficient laudable purpose in view, and a portion of the public is apt to lose sight of the praiseworthy object, and dwell on the dog's sufferings. This tendency is necessarily heightened when a writer of ability argues in one of the daily papers that the experiment is unnecessary and therefore unjustifiable, and when his argument receives editorial support. This is what has happened, and the danger is that a public feeling will be aroused that will lead the Legislature to cripple experimentation by the enactment of more stringent laws against cruelty to animals. Legislation engendered by sentiment is prone to go too far, and, to avoid such a result in this matter, it ought to be made known to the good people who are distressed at the boy-and-dog experiment that it certainly was not undertaken as a mere exhibition of caprice, assuredly not as a piece of cruelty. There may be equally good methods of filling a bony gap with new bone; there may even be better ones. That, however, has not yet been made a matter of certainty, although the success obtained by Mr. A. G. Miller, of England, with the use of decalcified-bone chips, alluded to in our last issue, has been such as to afford great encouragement that it soon may be demonstrated. Until it has been, a surgeon is justified, we think, in using his own judgment in the choice between a procedure involving suffering to one of the lower animals and one that does not involve that occurrence. This is not a matter of vivisection in the ordinary sense of the word, and it will not do to cite the statements of physiologists against the utility of the operation. On the other hand, members of the medical profession can not be too careful, when they set about any such procedure, to take all possible pains to carry it out with every practicable mitigation of suffering. We have no reason to think that this was not done in the instance that has been made the subject of comment.

MINOR PARAGRAPHS.

THE USE OF MENTHOL IN DIPHTHERIA.

The antiseptic properties of menthol, especially in cases of diphtheria, have received strong testimony in an article by Dr. Herman Wolf in the *Therapeutische Monatshefte* for September. He adopts the following form of application: A powder is prescribed containing one part of the drug to ten or twenty parts of sugar; this to be carefully applied by means of a camel's-hair brush to the inflamed and membrane-covered parts of the throat, which should have been thoroughly cleansed from all mucous secretions beforehand. If the nasal passages also are involved, the powder should be blown into the anterior nares and upon the posterior pharyngeal wall. If the process has invaded the bronchi, menthol may be sprayed during inhalation. In a somewhat large experience with it, Wolf declares that he has found the drug free from all toxic tendencies, while at the same time it is a complete and prompt local antiseptic in this class of cases. As he uses it, the drug is unobjectionable in odor and taste, and has more potency than many of the gargles and sprays that are in common use, but which are far more disagreeable. In the light of the latest investigations the rôle of antiseptic applications is strengthened in the treatment of this disease. The recent experimental work of Wintgens and others show, in regard to the Klebs-Löffler bacillus, that it is capable of producing an exceedingly poisonous albuminoid when cultivated in suitable nutrient media. These researches confirm the clinical value of those antiseptic applications that destroy the virulent bacillus, of which menthol is reported to be one.

DECENTERED SPECTACLE GLASSES.

It is the exception rather than the rule to see persons, in the medical profession as well as out of it, wearing spectacles and eye-glasses the centers of the lenses of which correspond with the visual axes. That more or less asthenopia may be produced by a faulty position of the lenses has been admitted by ophthalmologists, and in these days when attention has been directed so strongly to the ocular muscles it may not be amiss to ask whether certain cases of muscular weakness are not due to an habitual faulty position of a lens employed to correct a refractive error. A lens may be regarded as formed of an infinite number of minute prisms, each with a different refracting angle, and the only ray not refracted by a lens is the one which passes through the center of each surface. If the lens is so placed that these centers, instead of coinciding with the axis of vision, are displaced in any direction, a prismatic effect is obtained, the line of vision is bent toward the center of the lens if it is convex, from the center if it is concave, and the cornea is drawn in the opposite direction to counteract this effect and restore the line of vision to its normal position. The muscle or muscles which act to produce this position of the cornea and correct the interference in the line of vision are habitually overworked. When the displacement is not great in amount, the additional work thrown upon this muscle is not noticed by the wearer of the lens, but it seems as if it must result in a certain amount of muscle strain proportionate to the strength of the lens and the degree of displacement of the center, which may be followed by asthenopic symptoms. These considerations should induce a greater degree of attention to the accurate adjustment of the centers of the lenses to the visual axes—attention which can be paid by the general practitioner as well as by the ophthalmologist, but is usually relegated to the local optician or jeweler, whose sole idea is to sell his customer a pair of glasses with which he can see well, and who knows nothing about these evil after-effects of decentered lenses.

IRREGULARITIES IN THE CUTANEOUS MANIFESTATIONS OF TYPHOID FEVER.

Dr. R. L. MacDonnell, in a clinical lecture, in the *Montreal Medical Journal* for November, has pointed out some atypical conditions of the skin among his cases at the General Hospital. The number of patients with the disease—seven men and five women—was somewhat larger than usual at this season of the year, but the type of the disease has, for the most part, been a mild one. Unilateral sweating was noticed in the case of a strong young Englishman who had a fairly severe attack of the fever; on the day of his admission the one-sided sweating was well marked, but it had disappeared three days later. In one case a pale scarlatiniform rash was noted within a few hours after admission, confined to the neck and shoulders; it was of short duration. No medicines had been administered. In the case of a young girl, urticaria in distinct wheals manifested itself in the third week of an attack that had not been severe. In the case of a pregnant woman, who had a protracted attack of typhoid, there was jaundice lasting three days. In the case of a man who had a sharp attack, with extreme meteorism, for the relief of which turpentine stupes were used, pustules appeared upon the abdomen at the site of the typhoidal eruptive spots; in some of these small abscesses, containing from half a drachm to a drachm of pus, were formed. This accident Dr. MacDonnell had noticed once before as a result of the use of turpentine stupes in fever. Four irregular forms of eruption in typhoid fever have been specified by Moore, of Dublin, such as erythema fugax, miliary eruptions, erythema simplex (seu scarlatinale), and urticaria. The scarlatiniform rash is most likely to show itself at the end of the first week or in the course of the third week, and when it appears early it is apt to give rise to diagnostic embarrassment, but the prodromes of scarlet fever are wanting, and the rash has been of a lighter color, less rough and punctiform than that of the exanthem; the rash is a blush rather than an eruption, and may be considered as a result of some disturbance of the peripheral vaso-motor system.

LEPROSY IN COLOMBIA.

An official report on the rapid spread of this disease is contained in a recent number of the *Revista de Higiene de Bogotá*. It is the result of systematic medical inquiries throughout the republic regarding the causes and phenomena of the disease by the Central Junta of Hygiene of Colombia. The propositions of this medical commission are of interest in respect of the primary steps of relief that will be recommended to the executive and legislative departments of the Government: 1. To solicit the next Congress to pass a law providing for the isolation of individuals affected with leprosy and elephantiasis. 2. To establish a special tax to defray the expense of observing the method of propagation of the disease and for the erection and maintenance of lazarettos; and to include this tax in the central budget of the Government.

THE VIENNA SYSTEM OF PUBLIC BATHS.

Mayor Grant has had laid before him a proposal for the erection of free baths on a plan like those now in successful operation in Vienna. The object of this plan is to supply public baths which can be kept clean and free from contagion. In order to accomplish this, shower-baths only will be used, the water being allowed to flow off into the sewer as fast as it is used. The buildings for this sort of baths need not be situated on the river front, but may be in the very heart of the city. It is calculated that a building on an ordinary city lot may be so arranged as to accommodate a thousand bathers daily. Each bath will be in a separate compartment, with towel and soap for each. The baths may be divided into two classes—those absolutely free, and those for which a charge of five cents is made for some little additional attendance. The city authorities will be asked to furnish the water free of cost in one or more experimental bath-houses that will soon be established in the populous eastern regions of the city.

GREEN COFFEE IN MIGRAINE AND GOUT.

Green coffee, in the form of an infusion or fluid extract, was formerly somewhat used in migraine, but has fallen into disuse, partly, as we believe, from its taste being essentially disagreeable to many patients. Recently Dr. Lauderbilco has bespoken, in the *Journal de médecine de Paris*, its retrial. He recommends the use of the infusion in the treatment of gout, gravel, nephritic colic, and migraine; the varieties of coffee to be used are Martinique one half, and Mocha and Isle de Bourbon berries, each, one quarter. Six drachms of this mixture are placed in a glass of water and macerated for twelve hours; the contents are then strained and the clear liquid is drank, without the addition of sugar and while the stomach is empty, preferably before breakfast. Food may be taken soon afterward. The results are described as having been so satisfactory that the author gives the green coffee a strong recommendation in cases of a gouty tendency.

DR. SOLIS-COHEN'S LECTURES.

In this issue we conclude the publication of Dr. Solomon Solis-Cohen's two lectures on the Therapeutic Principles governing the Selection of Cardiac Medicaments. They were delivered in the course at the Medical Department of Dartmouth College. We must congratulate that institution and the Philadelphia Polyclinic on having a lecturer capable of elucidating such a subject so clearly as Dr. Solis-Cohen unquestionably has done. It is one that practitioners in general are by no means versed in, and can not readily acquire exact information upon, except by a wide range of reading or by some such condensed but thorough exposition as is given in these lectures.

THE ATTRACTIVENESS OF CHICAGO TO PHYSICIANS.

It was stated at the recent annual meeting of the Illinois State Board of Health that at no time since the organization of the board had there been such an influx of physicians into Chicago as within the preceding three months, during which time more than two thirds of the licenses issued to practice medicine were to practice in Chicago. It was also stated that never before had there been such a number of quacks trying to get a foothold in that city. This was partly attributed to the attractiveness of the prospective fair, and partly to the increase of population.

A FORECAST IN REGARD TO CHOLERA.

Dr. J. H. Rauch is reported as having said, at the recent annual meeting of the Illinois State Board of Health, that a conference with the health officials of Great Britain and Germany had given him the impression that they agreed in thinking that there was great danger of the spread of cholera next year; and as having added that, after a careful review of the situation, he felt that this country also was in great danger of its introduction, though by extreme vigilance at the maritime ports this might be prevented.

THE ILLNESS OF THE SURGEON-GENERAL.

As we go to press, the news in regard to General Baxter's condition is, we regret to say, not encouraging. He is reported as still in a state of coma, which has been continuous since the apoplectic seizure that occurred on Monday. We still hope for information of a favorable change in his case, for he was in the height of his mental vigor when he was stricken down, and gave promise of much valuable service in the medical corps of the army.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 2, 1890:

DISEASES.	Week ending Nov. 25.		Week ending Dec. 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	1	0
Typhoid fever	23	7	25	3
Scarlet fever	70	8	93	9
Cerebro-spinal meningitis	2	2	3	3
Measles	193	11	225	12
Diphtheria	78	26	90	28
Small-pox	1	0	1	0
Varicella	5	0	12	0

The Muetter Lectures of the College of Physicians of Philadelphia.—The course of lectures on surgical pathology provided in accordance with the will of the late Professor Thomas D. Mütter will be delivered during 1890-'91, by Professor Roswell Park, of Buffalo, N. Y. The first series of five lectures will be given in the hall of the College of Physicians, corner of Thirteenth and Locust Streets, on December 4th, 5th, 6th, 8th, and 9th, at 8.15 P. M. The subjects are as follows: 1. Introductory. Study of the blood and of some phases of the inflammatory process. Thrombosis, embolism, hæmoglobin and oligochromæmia, ptomaines. Conditions predisposing to infection. 2. A study of pus and of pyogenic organisms, obligate and facultative. 3. Surgical sepsis and the organisms which produce it. Résumé of experimental work, surgical fever, intestinal toxæmia, sapræmia, septicæmia, and pyæmia. 4. Peritonitis—forms and causes. Testing the relative values of antiseptics. 5. Tetany and tetanus. The medical profession are cordially invited to be present.

The Mattison Prize.—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of $400 for the best paper on Opium Addiction as related to Renal Disease, based upon these queries: Will the habitual use of opium, in any form, produce organic renal disease? If so, what lesion is most likely to occur? What is the rationale? The contest is to be open for two years from December 1, 1890, to either sex and any school or language. The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a New York medical journal, in the *Brooklyn Medical Journal*, and in the *Journal of Inebriety*. Other papers presented are to be published in some leading medical journal, as their authors may select. All papers are to be in possession of the chairman of the award committee on or before January 1, 1893. The committee of award will consist of Dr. Alfred L. Loomis, of New York, chairman; Dr. H. F. Formad, of Philadelphia; Dr. Ezra H. Wilson, of Brooklyn; Dr. George F. Shrady, of New York; and Dr. J. H. Raymond, of Brooklyn.

The Gastric Juice in Diabetes.—"In a long article on the condition of the gastric juice, saliva, and perspiration in diabetes, Dr. Ponomaroff details a number of observations which lead him to dispute the assertions of some previous observers—*e. g.*, Heller and Frick, who believed that they had detected sugar in these secretions. With regard to the gastric juice, Dr. Ponomaroff points out that where this is obtained by making the patients vomit, what is obtained is not the gastric juice alone, but an admixture of that with a certain quantity of bile. This generally contains sugar, and therefore vitiates the result. When the œsophageal tube is used and the gastric juice free from bile is obtained, there is, he states, never any sugar in it."—*Lancet.*

The New York Academy of Medicine.—At the next meeting of the Section in Surgery, on Monday evening, the 8th inst., Dr. W. T. Bull will report Three Cases of Pylorectomy for Cancer of the Stomach, and Dr. R. F. Weir, A Case of Gastro-enterostomy by Abbe's Rings for Pyloric Stenosis, with Remarks.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, the 9th inst., Dr. F. R. Sturgis will read a paper on a subject to be announced, and Dr. Robert W. Taylor one entitled Certain Clinical Features of Chancre of the Fingers.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 11th inst., the chairman, Dr. L. Emmet Holt, will show a patient who has recovered after symptoms indicating a tumor of the brain; Dr. W. E. Forrest will read a paper entitled Observations upon the Influence of Artificial Respiration on the Heart of the Newly Born; Dr. G. W. Rachel, one on Polyuria in Infancy; and Dr. B. Scharlau, one on The Treatment of Large Serous Effusions into the Chest by Incision.

The Brooklyn Surgical Society.—The special order for the meeting of Thursday evening, the 4th inst., was the report of a case of œsophagotomy, by Dr. Jarvis S. Wight.

The Medical Society of Pennsylvania, according to the Philadelphia *American*, has recently applied for a charter.

An Organization of Railway Surgeons.—The surgeons of the Pittsburgh and Lake Erie Railroad have organized, with Dr. J. P. McCord, of Pittsburgh, as president, for the purpose of improving their co-operation in their work.

The Journal of the American Medical Association.—It is stated that a resolution will be submitted to the next meeting of the association, making Washington, D. C., the permanent place of publication of the *Journal.*

The Medical Societies of Louisville are reported to have joined in the undertaking of procuring a building for their meetings and for a library and museum.

The Buffalo Medical College.—It is announced that the college building is to be remodeled and added to so that its area will be 207 feet on Virginia Street and 55 feet on Pearl Place.

The Worcester, Mass., Lunatic Hospital.—Dr. Hosea M. Quinby has been appointed superintendent.

The Maine Insane Hospital.—Dr. P. H. S. Vaughan, of Skowhegan, has been appointed an assistant physician.

Change of Address.—Dr. Leo Ettinger, to No. 101 East Sixty-first Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 23 to November 29, 1890:*

EWING, CHARLES B., Captain and Assistant Surgeon, in addition to his present duties, is assigned, by direction of the Secretary of War, to duty as examiner of recruits at St. Louis, Mo. Par. 7, S. O. 275, Headquarters of the Army, A. G. O., November 24, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 29, 1890:*

CRAWFORD, M. H., Passed Assistant Surgeon. Ordered to the Receiving-ship Independence.

MARSTELLER, E. H., Passed Assistant Surgeon. Ordered to the U. S. Steamer Petrel.

NASH, FRANCIS S., Passed Assistant Surgeon. Resigned from the U. S. Navy, to take effect November 23, 1891.

Cordeiro, F. J. B., Passed Assistant Surgeon. Granted extension of leave for four months, with permission to leave the United States.

Lansdale, Philip, Medical Director (Retired). Granted one year's leave, with permission to leave the United States.

Alfred, Adrian Richard. Commissioned an Assistant Surgeon in the U. S. Navy, from November 24, 1890.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending November 22, 1890:*

Fessenden, C. S. D., Surgeon. Granted leave of absence for fourteen days. November 22, 1890.

Austin, H. W., Surgeon. Detailed as chairman of Board of Medical Officers to convene in Washington, D. C., December 1, 1890. November 19, 1890.

Irwin, Fairfax, Surgeon. Detailed as member of Board of Medical Officers to convene in Washington, D. C., December 1, 1890. November 19, 1890.

Kinyoun, J. J., Assistant Surgeon. Detailed as recorder of Board of Medical Officers to convene in Washington, D. C., December 1, 1890. November 19, 1890.

Woodward, R. M., Assistant Surgeon. Granted leave of absence for fourteen days. November 21, 1890.

Condict, A. W., Assistant Surgeon. To proceed to Cairo, Ill., for temporary duty. November 19, 1890.

Stimpson, W. G., Assistant Surgeon. To proceed to Cape Charles Quarantine for temporary duty. November 20, 1890.

Promotion.

Kinyoun, J. J., Passed Assistant Surgeon. Commissioned as Passed Assistant Surgeon by the President. November 21, 1890.

Appointment.

Cofer, L. E., Assistant Surgeon. Commissioned as Assistant Surgeon by the President. November 21, 1890.

Society Meetings for the Coming Week:

Monday, *December 8th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *December 9th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly—Elmira), Oswego (semi-annual—Oswego), Rensselaer, and Ulster (quarterly), N. Y.; Norfolk, Mass., District Medical Society (Hyde Park); Newark, N. J., and Trenton (private), N. J., Medical Associations; Morris, N. J., County Medical Society (semi-annual); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *December 10th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Societies of the Counties of Albany, Cayuga (semi-annual), Cortland (semi-annual), and Montgomery (quarterly), N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

Thursday, *December 11th:* New York Academy of Medicine (Section in Pædriatics); Society of Medical Jurisprudence and State Medicine; New York Physicians' Mutual Aid Association (annual); New York Laryngological Society (annual); Brooklyn Pathological Society; Medical Society of the County of Cayuga; South Boston, Mass., Medical Club (private—annual); Pathological Society of Philadelphia.

Friday, *December 12th:* Yorkville Medical Association (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties.

Saturday, *December 13th:* Obstetrical Society of Boston (private).

Letters to the Editor.

ALVEOLAR ABSCESS; A REPLY TO DR. J. D. MacPHERSON.

104 East Fifty-eighth Street, New York,
November 24, 1890.

To the Editor of the New York Medical Journal:

Sir: Since the establishment of a section in dental and oral surgery in the last two International Medical Congresses, and the incorporation of a similar section in the American Medical Association, the recognition of dentistry as a distinct specialty of medicine, when practiced by medical men, has been generally recognized.

In behalf of the large number of medical men who devote their entire energies to the treatment of dental and oral difficulties, I would enter a protest against the correctness of the deduction made in an article published in your valuable journal for November 22, 1890, by Dr. J. D. MacPherson, on The Importance of Prompt Treatment in Alveolar Abscess.

We as dentists have to keep well informed in general medicine, yet constantly in practice are we embarrassed by the lack of correct information of the profession at large on simple dental topics. Nothing illustrates this more readily than the errors the above-mentioned author falls into as soon as he verges upon a strictly dental sphere.

His classification of alveolar abscess into superficial and deep is rather original, but will scarcely be adopted by an investigator. His term superficial evidently refers to an old chronic abscess having an old fistula leading to the source of trouble, while by deep is meant an acute attack of alveolar abscess. His criticism on dentists failing to extract teeth when the tissues are in a state of inflammation must be due to a misconception of facts by the author. Never have I known or heard of a dentist delaying extraction when once it had been determined upon for such a cause. Except for dispensary patients, it is rare indeed that a tooth must be extracted on account of an alveolar abscess. The main object of this communication is to combat the conclusion made that immediate extraction of the tooth is demanded. Dentistry may keep on improving, but artificial teeth will be as good as living ones about the time that artificial noses, eyes, limbs, etc., are as good as living ones. The general medical practitioner places altogether too small a value on the utility of each individual tooth and its function as a part of the general digestive apparatus.

With some rare exceptions, common alveolar abscess is caused by the putrefaction of a dead pulp, the gases of which, escaping through the apex of the tooth, produce an inflammation of the pericementum (not periosteum) resulting in suppuration, etc. Let us remember that in these cases the tooth itself is not necessarily dead. In the vast majority of cases where treatment is properly instituted, the tooth never dies, but circulation is carried on through the living membrane in the alveolar socket, the pericementum. The course pursued by the dental surgeon in these cases is to first adjust a piece of rubber dam so that no saliva can come in contact with the tooth and infect the pulp canal. An opening, if not already found, is drilled through the crown of the tooth into the pulp chamber on a line leading direct to the apices of the roots. The opening is made sufficiently large and deep for every vestige of pulp tissue remaining in any of the roots to be entirely removed. This at once relieves the sufferings of the patient. The canals are then thoroughly syringed with a solution of chemically pure peroxide of hydrogen and bichloride of mercury; after this, by means of a cauterizing wire, the canals are completely dried. Their sides are then wiped with one of the essential oils, and the apex of the root is hermetically sealed with some material like a solution of gutta-percha in chloroform, and the tooth is filled in the customary manner. If any inflammatory action sets in after such an operation is properly performed, the seat of the trouble is no longer in the tooth, but in the apical space, and it is generally effectively treated by abortive measures; if it is more serious, an opening is made through the alveolar process and simple surgical measures are used. The great danger in all these cases arises from the septic symptoms liable to occur, due to the absorption of pus. The most dangerous and insidious cases are those in which there have been established fistulæ leading outside the alveolus. The pain subsides, and, the patient paying no further attention to the matter, the abscess lapses into a state of chronicity, classified as superficial by Dr. MacPherson, because when, after short intervals of rest, the foul pulp in the tooth starts up the latent abscess, it requires very little pressure for it to force its way through its old channels and out of the alveolus, leaving behind a zone of necrotic tissue, affecting also the apex of the tooth. Only in such cases as these can any part of the tooth be said to be dead. Even here, if the tooth is treated as before mentioned, and the alveolar tract enlarged down to the root, removing all the dead portion of the tooth, as well as the necrotic tissue surrounding it, the parts will all return to a condition of health and the tooth continue to do good service even after half of the root is amputated.

M. L. Rhein, M. D., D. D. S.

THE GONOCOCCUS OF NEISSER AND ARTHRITIC EFFUSIONS.

667 Madison Avenue, *November 13, 1890.*

To the Editor of the New York Medical Journal:

Sir: In an article by Dr. H. Koplik, entitled Arthritis complicating Vulvo-vaginal Inflammation in Children, published in the Journal for June 21, 1890, I note the following: "Petrone and Kammerer relate cases in which they have discovered the diplococcus in joint effusions in both the male and female. Kammerer questions the investigations of Brieger and Ehrlich as to the presence of the micro-organism of Neisser in joint effusions, and states that the joint fluid should be examined very soon after infection of the urethra—three to five days. If this be done they can be easily demonstrated. It is an ungrateful task to criticise the work of others, but, in a true spirit of investigation, I beg to say that I have carefully looked into the work of Kammerer in the two cases above mentioned, and find only the statement of the presence of diplococci; these were found simply free, not in the pus cells, and there were no cultures made."

I should feel loath to question the investigations of two such workers in the field of pathology as Brieger and Ehrlich. I only tried to give an explanation of the unsuccessful attempt of these two gentlemen to find micro-organisms in the effusions of gonorrhœal rheumatism, and suggested that their cases might have been of older standing, in which the cocci had disappeared in the fluid. But I have nowhere stated, as is attributed to me, that gonococci can be easily demonstrated in effusions from three to five days after infection of the urethra. If the author of the paper had "carefully looked into" my work, I do not think he could have attributed this statement to me. I have never asserted that gonococci could be "easily" demonstrated in the joints; on the contrary, I distinctly said that in the only case in which I had found them they were present in small numbers. I stated at the time of my publication that the three cases that had yielded a positive result on microscopic examination of the joint effusion had been examined within five days after the appearance of the joint affections, but I drew no general conclusions. That I am, however, also credited with having said the joint fluids should be examined three to five days *after infection of the urethra*, is an oversight on the part of the author difficult to explain. I, at least, have never seen a joint affection developing in so short a time after infection of the urethra, and have consequently made no assertion to this effect.

That I relied only on the grouping, staining, and size of the cocci in classifying them as the coccus of Neisser, and made no cultures, is a matter I regret as much as Dr. Koplik. During the summer of 1883, when these cases came under my observation, the knowledge of the methods of bacteriological culture was the privilege of only a favored few. Since then, however, I have become acquainted with the difficulties attending the cultivation of the coccus Neisser on blood serum, and on that account, I believe, its cultivation from the effusions in joints will seldom prove a success.

Whether the coccus Neisser or some pyogenic germ is the cause of the joint affections in gonorrhœal rheumatism is, I presume, still an unsettled question. Many observations in both directions have been published. Judging from the different character of the effusion and the different clinical course which these affections pursue, I think that both modes of infection are possible—a view which I am not the first to express. However this may be, I have always believed that the main value of my paper, if indeed it had any, lay in the discovery of micro-organisms in the joints, not especially of the coccus Neisser.

Frederick Kammerer, M. D.

THE LIBRARY OF THE NEW YORK HOSPITAL; AN ERROR CORRECTED.

New York, *November 29, 1890.*

To the Editor of the New York Medical Journal:

Sir: At the recent inauguration of the new Academy building an address was delivered by one of the speakers, upon the subject of Our Library, which contained the following very *erroneous* statement: "Thirty-three years ago, when I was admitted a member of this Academy, there was no medical library or medical reading-room in this city."

Whence the writer got his information I know not, for so frequently has the history of the library of the New York Hospital been written and published by city compilers and by United States Government officials that it seems strange that one possessed of the general information of the speaker should not have known that the library of the New York Hospital was founded in 1796, and that when he became a member of the Academy it contained 6,180 volumes and occupied three apartments, two of them on the second and third floors of the old hospital, joined by an iron staircase. All this was as far back as 1857; thus it appears that our city *had* a medical library of no mean capacity thirty-three years ago, and was used by the profession and by students of medicine.

John L. Vandervoort, M. D., *Librarian.*

THE LARYNGOLOGY OF TROUSSEAU AND GREEN.

Home for Incurables, Fordham, N. Y., *October 30, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue for August 30th, current year, there is an article on the Laryngology of Trousseau and Dr. Horace Green, by Dr. Frank Donaldson, of Baltimore, to which I wish to add a few historical corrections, so as to make that article complete. In 1838 Dr. Green went to Europe, accompanying the Rev. Dr. Schroeder, of Astoria. It was at that time that Dr. Green had the conversation with Dr. James Johnson, the editor of the *Medico-chirurgical Review.* Subsequently to that, the *British and Foreign Medical Review* was established, with Dr. John Forbes as editor. After Dr. Green's return from Europe he commenced to make a practical application of the treatment which had been suggested to him by Dr. Johnson in his conversation, and in 1846 he published his treatise on *Bronchitis*, in which the results of his work in that direction were given to the public. In 1849 I went to Europe and carried with me a number of copies of Dr. Green's work, which had been handsomely noticed by Dr. Forbes in the *British and Foreign Medical Review*. I remained in Europe until the fall of 1852. While in Paris, I recollect that the author of the article, Dr. Frank Donaldson, of Baltimore, was a fellow-student at the same time, attending Professor Trousseau's lectures at the Children's Hospital. Until then Dr. Green's treatment had been by means of the sponge probang. During the summer of 1852 I wrote to Dr. Green that it was time for him to come abroad and look after his own interests. He accordingly came, and had an interview with Professor Trousseau at the Hôtel Meurice in Paris. I returned to this country with him in October of that year. In 1854 I made a second visit to Europe, and while in Paris I had an interview with Professor Trousseau, who was then at the Hôtel Dieu, having taken to him a letter of introduction from Dr. Barker, who was Dr. Green's colleague in the New York Medical College. I attempted to demonstrate upon a patient in the wards under Professor Trousseau the feasibility and practicability of carrying a sponge-armed probang into the larynx and below the vocal cords into the trachea, so as to convince Professor Trousseau. He still persisted in denying its feasibility, and I accepted his invitation to demonstrate it upon a body in the dead-house of the hospital. We all went down into the dead-house. I passed the instrument, and then performed on the body the operation of tracheotomy, and saw the probang in the larynx through the opening made in the trachea. Professor Trousseau then objected because the vital conditions were changed by the death of the subject. I then undertook to make some experiments on the dead body at Clamart, well known to students of anatomy in Paris. I carried a catheter which was made more or less firm by the introduction of a mandrin which I had made purposely, articulated to the end of which I secured a sponge of about the size of that used by Dr. Green on the probangs in his office. My experiments were successful, and I then received the impression that a tube of the caliber of the catheter might be used with success to inject through it a weak solution of nitrate of silver. The result of this experimentation I wrote to Dr. Green, and while I was on shipboard. On my return home, Dr. Green had instituted a practice of catheterism of the air-passages by which a weak solution of nitrate of silver could be carried into the trachea, and, as he averred, lower down into the right or left bronchus, at will. Until then the term catheterization had not been used.

J. H. Douglas, M. D.

HYDROGEN PEROXIDE IN DIPHTHERIA.

1189 Madison Avenue, *November 8, 1890.*

To the Editor of the New York Medical Journal:

Sir: I would suggest the following local treatment for diphtheria: The application to the membrane of Marchand's solution of peroxide of hydrogen, fifteen volumes, with an equal bulk of water, then scraping the membrane off with a curette and applying the peroxide of hydrogen, one third dilution, every hour for six or seven hours, then every two hours. If there is no reappearance of membrane after two days, spray the throat occasionally with an antiseptic spray. In this way the membrane is removed at once. The operation is done at a period of the disease when there is no danger of heart failure, so that the struggles of a child need not be minded.

I am aware that the removal of the membrane in former years was regarded as somewhat dangerous, but at that time nothing was known of disinfectants and germicides.

It would seem that a remedy which, applied to the diphtheritic membrane, removed it after some hours, would prevent its formation. In tolerant patients the peroxide may be put on three or four times, so as to be sure of complete disinfection before curetting. A small Thomas's uterine curette answers the purpose admirably. A patient treated as described was comparatively well in two days.

David Phillips, M. D.

LIGATION OF THE LIMBS IN HÆMORRHAGE.

Adirondack Cottage Sanitarium, *November 11, 1890.*

To the Editor of the New York Medical Journal:

Sir: A certain contributor to the Journal of November 1st, page 488, would have us believe that he was the original discoverer of the process of ligating the limbs for hæmorrhage! He "*would suggest* the following plan," and, having "made extensive use of these bands," can "now feel a good deal of confidence in recommending them to others," etc. Does he not know that this procedure is as old as the hills, and is called *ligation of the base of the extremities* in every standard text-book on minor surgery, not to mention the many encyclopædic articles on hæmorrhage and hæmostasis? It would not be just to the history of our art to allow such a presumption to pass unnoticed.

W. W. Skinner, M. D.

Book Notices.

Klinische und anatomische Beiträge zur Pathologie des Gehirns Von Dr. Salomon Eberhard Henschen, Professor der klinischen Medicin, Direktor der medicinischen Klinik an der Universität Upsala. Erster Theil. Mit 36 Tafeln und 3 Karten. Upsala: Almquist & Wiksell, 1890. 4to, pp. 215.

These magnificent clinical and anatomical contributions to the pathology of the brain emanate from the University of Upsala, Sweden. The book, however, is not written in Swedish, but in German, which, fortunately, will make it practically useful to all nations. It is well known that much of our present knowledge of the physiology and pathology of the human brain is the result of careful study of rather poorly reported cases scattered through the literature of past years, and collected at a time when the thoroughness and completeness of clinical observation were not so great as now. Every investigator who endeavors to make use of this old material for the solution of new problems soon ascertains how defective and often even useless it is. A new and richer material is desirable to insure the progress of cerebral pathology. With this object in view Professor Henschen has issued this first volume of his work, a second being also nearly ready. The author believes it necessary, in such clinico-pathological studies, to accompany them with systematic drawings or photographs of the pathological lesions in their natural size. Hence the issue of this book in quarto form to give space for the thirty-six plates which illustrate the text. It may be remarked here that these plates are marvels of lithographic art. A number of them are in color, reproducing perfectly sections stained by the Weigert method.

This whole volume deals with the clinical manifestations and pathological findings in lesions of the optic tract, and is based upon thirty-six cases which have come under the author's observation, in nearly all of which autopsies have been made. The histories of these cases, together with the description of the autopsies and microscopical examinations—all of which are written with remarkable scientific precision and detail—are grouped into fourteen chapters with the following headings:

1. Secondary changes in the optic tract in a case of bilateral bulbar atrophy (one case).
2. The visual path in one-eyed persons (eight cases).
3. Changes in the optic tract in lesion of the corpus geniculatum externum (two cases).
4. Hemianopsia following gummatous basal meningitis (one case).
5. Tumors of the chiasm (two cases).
6. Hemianopsia from hæmorrhage into the thalamus (one case).
7. Visual disturbances from bilateral changes in the optic radiations (three cases).
8. Hemianopsia following softening of the optic radiation (two cases).
9. Cortical hæmianopsia (three cases).
10. Tumors in the optic radiation without hemianopsia (three cases).
11. Cortical changes in the occipital lobe without hemianopsia (two cases).
12. The visual path after lesion of the optic radiation (one case).
13. A contribution to color hemianopsia (two cases).
14. Cases of hemianopsia (five cases).

It would be impossible in a short review to call attention to all the invaluable features of this book. It is hoped, however, that some idea of its character may be gained from the titles of chapters given above, and the following points, taken at random, will serve to illustrate some of the new observations made as well as the carefulness with which cases have been studied. The author has observed hemianopsia in two cases of infantile spastic hemiplegia. Both patients had reached adult life, and the hemianopsia had existed seventeen or eighteen years. In one, the hemiopic pupillary reaction was present. Hemianopsia has not been noted in any of the recent contributions to the literature of infantile cerebral palsy (Osler, Sachs, and Peterson), although these authors together describe nearly three hundred cases. They could not have examined the patients for that condition, for, had this been done, undoubtedly many would have presented this symptom.

Professor Henschen also relates three or four cases of homonymous hemiopic hallucinations, such as were recently described in this Journal, but occurring with hemiplegia and hemianopsia, and not with insanity.

The microscopical observations in this work are based upon the laborious examination of some 10,000 specimens.

In point of typography and lithography, the volume is a rare specimen of book-making. The second volume is to appear shortly. The whole work is one that no neurologist can afford to be without, and every ophthalmologist should be the possessor of this first volume.

It is needless to say that such a work could hardly be published at private expense, and it reflects credit upon the Swedish Government and the University of Upsala that they should have contributed a sum sufficient to make its appearance possible.

Dust and its Dangers. By T. Mitchell Prudden, M. D., etc. New York: G. P. Putnam's Sons, 1890. Pp. 111. [Price, 75 cents.]

If this volume meets with the popularity it deserves, not only will it be a source of profit to its publishers and of increased reputation to its able author, but—more important—it will exercise an influence in domestic administration that will be advantageous to the entire community.

A comprehensive review of the biological character of dust, both out of doors and indoors, leads to the consideration of its real significance in relation to disease, and especially to consumption. With trenchant pen the author deals with the dust dangers of public streets, buildings, and conveyances, and the comparison of the sanitary activity displayed when yellow fever, small-pox, or Asiatic cholera threatens a community, with the indifference constantly shown toward consumption is vividly depicted in the sentence, "yet the number of victims of these occasional and dramatic epidemics is quite insignificant as compared with those of our omnipresent consumption."

Of the measures preventive against dust, suffice it to say that Dr. Prudden believes that, as Opies's success with colors consisted in mixing them "with brains," so "with brains" must the dust question be disposed of.

The excellent illustrations drawn by the author are quite valuable in emphasizing the teaching of the book, that can not fail to be as valuable to the professional as to the lay reader.

Medical Diagnosis, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. Da Costa, M. D., LL. D., Professor of Practice of Medicine and of Clinical Medicine at the Jefferson Medical College, Philadelphia. Illustrated with Engravings on Wood. Seventh Edition, revised. Philadelphia: J. B. Lippincott Company, 1890. Pp. 16-17 to 995. Price, $6.]

That this work has gone through six editions is sufficient evidence of the value placed upon it by the medical profession. And, while this present edition is an improvement upon its predecessors, it is not quite so thorough as the most popular text-book on the subject should be. For instance, there is no description of the manner in which the ophthalmoscope or the stomach tube is to be used—a deficiency that is manifested when the careful description of laryngoscopic methods is read. Again, in such matters as the method of detecting the Argyll Robertson pupil, and in the methods of discovering the different pathogenic bacteria, there is a paucity, if not omission, of detail that is possibly due to the author's assumption that most of his readers are as familiar with these matters as he is.

In the chapter on examination of the blood Hayem's latest researches have been incorporated; but the consideration of the examination of the blood, as in relapsing and malarial fevers, is not so complete as it should be.

We note these deficiencies as indicating a weakness in what would otherwise be the best work on medical diagnosis in the English language. Accustomed as we are to the excellent index in most of our medical works, the omission of references to subject-matter in this volume suggests that the index has been completely forgotten.

Original Contributions to Ophthalmic Surgery. By J. R. Wolfe, M. D., F. R. C. S. E., Professor of Ophthalmology in St. Mungo's College, Senior Surgeon to the Glasgow Ophthalmic Institution. With Illustrations. London: J. & A. Churchill, 1890. Pp. 2 to 97.

This little work is a brief abstract of clinical demonstrations in ophthalmic subjects, in three chapters, the first being devoted to cataract extraction. Dr. Wolfe regards the use of cocaine as detrimental to union after section of the cornea, as it deprives the tissue of the necessary vitality for adhesion to take place. His operations for cataract extraction are always preceded by iridectomy. This is contrary to the present practice of many ophthalmologists, who think that the perfection of the operation is in securing the round pupil. His treatment of detached retina does not differ materially from that practiced by the American operators. A short chapter is given on plastic operations and skin-grafting. The point made is that a pedicle is not at all necessary to the vitality of a flap or graft, and that the typical graft, either large or small, is to be thin and entirely devoid of areolar tissue. It is difficult to understand how the author could have imagined that such an effort was essential to the progress of ophthalmology.

A Treatise on Massage, Theoretical and Practical; its History, Mode of Application and Effects, Indications and Contra-indications, with Results in over Fifteen Hundred Cases. By Douglas Graham, M. D., Fellow of the Massachusetts Medical Society, etc. Second Edition, revised and enlarged. New York: J. H. Vail & Company, 1890. Pp. x–342.

The author considers the freedom with which his book has been quoted and stolen from on both sides of the Atlantic in a certain sense highly complimentary. Two new chapters have been added—one on local massage in local neurasthenia, and the other on the treatment of scoliosis by means of massage. Attention is called to the fact that the motor points which give the best contraction to faradization are the same that give the best contraction to percussion. There are chapters on the history of massage, its method of application, its physiological effects, and its use in disease of the nerves, muscles, internal organs, and articulations, together with numerous histories of cases treated and the results obtained, all of which is interesting and suggestive reading.

Lectures on Massage and Electricity in the Treatment of Disease (Masso-electrotherapeutics). By Thomas Stretch Dowse, M. D., Fellow of the College of Physicians of Edinburgh, etc. New York: E. B. Treat & Company, 1890. Pp. xix–379. [Price, $2.75.]

The fifteen chapters of this book are devoted to the principles of massage, the mode and method of applying massage, massage of the head and neck, massage and induction, faradaic massage of the skin, massage of muscle and nerve, massage of the venous and lymph circulations, the Weir Mitchell treatment, massage of the chest and abdomen, massage in nervous exhaustion and hysteria, massage of the spine and back, massage in joint and bursal affections, massage in sleeplessness, pain, dipsomania, and melancholia, massage in the wasting diseases of children, and in the diseases of sedentary, changing, and advanced life, electro-physics, and electro-therapeutics. The value of mechanical measures is becoming thoroughly recognized in England and America. In Germany it has long been held in high repute for the treatment of chronic disease. To redeem all mechanical measures from the hands of the charlatan is one of the present offices of the physician. What has been so ably done in behalf of electricity a book like the one under consideration helps to do for massage. The illustrations are excellent guides and the whole work is practical and suggestive.

Transactions of the Royal Academy of Medicine in Ireland. Vol. VII. Edited by William Thomson, M. A., F. R. C. S. Dublin: Fannin & Co., 1889.

This volume is of the same excellence as its predecessors, and the Academy of Medicine in Ireland is to be congratulated on the material that its Fellows bring for its consideration. The papers are arranged as medical, surgical, obstetrical, pathological, hygienic, anatomical, and physiological. As the latest paper was read in the spring of 1889, it will be noticed that this Academy suffers from the misfortune of most societies in publishing its volume when active interest in the subject-matter is cold. Another feature is the omission of any discussion on the papers, and we can hardly believe that they were not worth discussing.

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A. M., M. D., Professor of Chemistry and Physics in the University of the City of New York, etc. Third Edition. New York: William Wood & Co., 1890. Pp. xii–528.

This standard work is too well and favorably known to our readers to make any extended review necessary. In consonance with the original plan of the volume, additions have been made to the chapters on chemical physics, mineral chemistry, and the chemistry of the carbon compounds, so as to introduce the latest discoveries on these subjects, and so retain the *Manual* in the foremost rank of medical text books.

Text-book of Materia Medica for Nurses. Compiled by Lavinia L. Dock, Graduate of the Bellevue Training School for Nurses, Superintendent of Grace Memorial House. New York and London: G. P. Putnam's Sons, 1890.

The name of this work indicates its object—to furnish a text-book of materia medica which will include the points that a nurse needs to know, and exclude the portion which is of use solely to the medical profession. The outlines followed are those taught in the Bellevue Training School, and include something of the source and composition of drugs, their physiological actions, the signs which indicate their favorable or unfavorable action, the symptoms produced by poisons, with their antidotes, and practical points on the administration of medicines. It is written very concisely, and little can be found in it to criticise unfavorably, except the inevitable danger that the student will imagine after reading it that the whole subject has been mastered. The subject of therapeutics has been omitted as not a part of a nurse's study, and this omission is highly to be commended. It will prove a valuable book for the purpose for which it is intended.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M. D., Clinical Professor of Diseases of Children, Bellevue Hospital Medical College, etc. Seventh Edition, thoroughly revised. With Fifty-one Illustrations. Philadelphia: Lea Brothers & Co., 1890. Pp. xiv–33 to 900. [Price, $4.50.]

Among the physical disorders treated of in this new edition of Dr. Smith's valuable work on children's diseases not mentioned in earlier editions, are conjunctivitis, icterus, sepsis, umbilical diseases, hæmatemesis, melæna, sclerema, œdema, and pemphigus of the new-born. Epilepsy, tetany, appendicitis, typhlitis, and perityphlitis also receive attention. Dr. Joseph O'Dwyer contributes a paper on intubation of the larynx. All the important pertinent facts that modern research have brought to light are embodied in the present volume, thus bringing it up to date and giving it the dignity of ultimate authority upon the subjects of which it treats.

Epilepsy; its Pathology and Treatment. Being an Essay to which was awarded a Prize of Four Thousand Francs by the Académie Royale de Médecine de Belgique, December 31, 1889. By Hobart Amory Hare, M. D., Clinical Professor of Diseases of Children and Demonstrator of Therapeutics in the University of Pennsylvania, etc. Philadelphia: F. A. Davis, 1890. Pp. 228.

The author states that this essay upon epilepsy was considered by the Royal Academy of Medicine in Belgium as worthy of a prize of four thousand francs. This is sufficient reason for its present appearance in book form. It is representative of the present views concerning the pathology and treatment of epilepsy, and, if there is nothing new in the two hundred and twenty-eight pages, it is because nothing new concerning the disease and its treatment is definitely known.

Practical Sanitary and Economic Cooking adapted to Persons of Moderate and Small Means. By Mrs. Mary Hinman Abel. The Lomb Prize Essay. Published by the American Public Health Association, 1890. Pp. xi–190.

This is a new-fashioned cook-book compiled with reference to physiology. The dietaries are arranged to give the proper proportion of proteid, carbohydrate, and hydrocarbon in the daily food of all who desire the best nourishment for little money. There is an introduction explaining food principles, and there are chapters devoted to methods of cooking meat, vegetables, and the cereals, cookery for the sick, and bills of fare of the first, second, and third class, with the cost given. The little book contains much information of value. The great problem is to get the class for which it is intended to read it.

Ointments and Oleates especially in Diseases of the Skin. By John V. Shoemaker, A. M., M. D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medicochirurgical College of Philadelphia, etc. Second Edition, revised and enlarged. Philadelphia: F. A. Davis, 1890. Pp. ix–298.

During the past ten or fifteen years the oleates have been prescribed with considerable advantage. Since the appearance of the first edition of Dr. Shoemaker's book in 1885 there has been marked improvement in the quality of preparations of oleic acid and its salts. The author has aimed to make a complete survey of fatty substances as applied to the human body, and has extended the scope of the present work so as to include a consideration of ointments. The official lists of France, Germany, and Austria, together with those used in Italy, Spain, and the Spanish colonies, have been compiled from all accessible sources. And thus *Ointments and Oleates* serves as a conspectus of the whole subject of inunction.

BOOKS AND PAMPHLETS RECEIVED.

Rhinoplasty. Being a Short Description of One Hundred Cases treated by Tribhovandas Motichaud Shah, L. M., Assistant Surgeon and Chief Medical Officer, Junagadh. At the Junagadh Hospital. With Illustrations and Remarks. Printed at the Junagadh Sarkari Press, 1889. Pp. 130.

One Hundred Consecutive Cases of Cataract, operated upon by T. M. Shah, L. M., etc.

On the Treatment of Eczema in Elderly People. By L. Duncan Bulkley, A. M., M. D., New York. [Reprinted from the *Transactions of the Medical Society of the State of New York.*]

Reports on the Progress of Medicine.

DERMATOLOGY.

By GEORGE THOMAS JACKSON, M. D.

Oleum Physeteris seu Chænoceti is the euphonious title of a vehicle for skin medication introduced to us by Dr. Guldberg, of Copenhagen *Monatshft. f. prkt. Derm.*, 1890, vol. x, No. 10). To most of us it sounds as strange as the Syrian tongue, though we feel a little encouraged when we note that one of its synonyms has the good English ring of "bottlenose oil." As a matter of fact, it is a species of whale oil taken from a whale that is found in the fjords of Norway, whose scientific name is *Balæna rostrata*, or *Hyperodon rostrata*. The oil has a remarkable penetrating power, as proved by experiments. It was found to pass through the human skin in eight hours by simply resting in contact with it, while olive oil did not so pass in twenty-four hours. It contains a large amount of stearin and readily saponifies. Its specific gravity is less than that of other animal oils. It would seem to promise well as a means of lubricating the skin, and of causing medicinal substances to penetrate the skin. It combines readily with various medicines, such as chloroform, carbolic acid, mercury, lead, salicylic acid, sulphur, naphthol, aristol, iodoform, and iodine. We are promised a future paper upon the subject. In the mean time the above-mentioned substances have been used in various combinations with the oil as a vehicle.

Aristol, the much-lauded new drug, is now standing its trial. In the *Ann. de derm. et de syph.*, 1890, No. 7, we find three reports upon it: one by Schirren, from the *Berlin. klin. Wochnsch.*, 1890, p. 252; one by Seifert, from the *Wiener klin. Wochnsch.*, 1890, p. 342; and one by Brocq, from the *Bull. et mém. de la Soc. médic. des hôpitaux*, 1890, p. 350. It was found to be unirritating, slow, but effective in curing psoriasis in ten-per-cent. strength (Schirren and Seifert). In lupus it was useless in three cases (Schirren and Seifert), and curative in one case (Seifert). It proved curative for ulcers of the leg and tertiary syphilitic ulcers (Seifert and Brocq), for epithcliomatous ulceration (Brocq), and mucous patches (Seifert). It helped one case of eczema intertrigo, and greatly irritated one of seborrhœal eczema (Seifert).

Another Method of using Resorcin in Skin Diseases is proposed by Dreckmann (*Monatshft. f. p. Dermat.*, 1890, No. 9, p. 389) and is as follows: The diseased part is covered with a layer of linen or lint saturated with an aqueous solution of resorcin of one- to three-per-cent. strength, and this is covered by an impermeable bandage of oil-cloth (?) or rubber. It acts by macerating the part, since it keeps it in a moist heat; it protects it from injury; and it hastens the cornification of the epithelial cells on account of the resorcin. It has proved useful in moist eczemas of children, but is to be discontinued when the moisture diminishes. It is then to be followed by mild lead, zinc, or sulphur ointments. Hyperplastic thickenings of the skin resulting from chronic eczema, such as of the scrotum, do well up to a certain point, when other means must be used to complete the cure. [It is a question whether the resorcin has any action in the improvement effected by this dressing. We certainly have obtained more brilliant results in similar cases by the use of rubber alone, either with or without the interposition of a piece of linen between the bandage and the skin.]

The Elimination of Iodide of Potassium by the Kidneys has been studied by Dr. Ehlers, of Copenhagen (*Annal. de derm. et de syph.*, 1890, 1, 383). He finds that, on account of the rapid absorption and elimination of the iodide, there is little danger of intoxication by it, even in large doses, so long as the kidneys remain sound. All cases of intoxication by the iodide have been in patients with diseased kidneys, and in them it is found that symptoms of iodism showed themselves when only half of the amount taken was excreted by the kidneys. Under normal conditions, when the patient is taking 20 grammes (about 300 grains) of the iodide during the day, the urine will contain the salt in the proportion of about seventy-five to eighty parts in one hundred of urine. If more than this amount is taken, absorption seems to be incomplete. All the ingested salt seems to be eliminated, no matter what the amount taken, within four or five days after stopping the drug. The only objection our author sees to the administration of large doses of the iodide to patients with normal kidneys is its cost. But he makes the novel suggestion that this expense may be reduced by gathering the urine from these patients and from it making fresh iodine!

Pigmentation of the Human Skin.—Philippson, of Hamburg, has studied with care the subject of pigmentation of the human skin, and now (*Fortschritte d. Med.*, 1890, viii, 216) gives us the conclusions he has arrived at from his observations. He thinks that there is a difference between the human skin and that of salamanders and frogs that was studied by Ehrmann, in that the chromatophores of the latter are in the human subject replaced by the "mast" cells of Ehrlich, the plasma cells of Waldeyer. These form a chain around the blood-vessels, follow the capillaries into the papillæ, and sooner or later join the pigment cells. Our author thinks that certain cells take from the blood a colorless granular material, which they pass on from cell to cell. Gradually this material in its passage becomes changed to pigment, and at last is deposited in the tissues. Thus far no explanation is forthcoming of *how* the "material" is taken out of the blood and changed into pigment. Though this theory can not be anatomically demonstrated, it is considered to be justified by the following facts: 1. At the border line where "mast" cells and pigment cells are found together in the heaps of pigment granules a few "mast"-cell granules are found, and also among the mast-cell granules a few pigment granules are found, or two collections of pigment granules are connected by means of mast-cell granules. 2. In the white mouse there is absolutely no pigment. In the deeper layers of its skin the mast cells are seen full of granules, while in the papillary layer of the skin they have very few granules. In the gray mouse pigmentation is but slight, and in them the mast cells have likewise little pigment in the papillæ. 3. In the human skin the pigment cells are placed in rows into which mast cells are frequently inserted. 4. In many preparations the mast cells are found between the epithelial cells. 5. In the skin of the black paws of the guinea-pig there are hardly any pigment cells, but mast cells. 6. In the adder's embryo there are colorless cells that correspond to the mast cells, and these at first are in the lower layers of the epidermis. They seem to have some close relation to the pigment formation.

The Pathogeny of the Cutaneous Lesions is the title of a suggestive article by M. Jacquet in *Annales de dermatologie et de syphiligraphie*, 1890, i, 486. His idea is that a great variety of cutaneous lesions may be dependent upon the same underlying cause—a vaso-motor disturbance; and that many of our supposed distinct diseases of the skin are not really such, but merely forms of manifestation of the same disease—a neurosis. He thus would find a close relationship, if not identity, between urticaria and lichen ruber, and holds both as being purely due to an external irritation, so far as the lesions are concerned. He points out that the pruritus is the first symptom in both diseases; that this induces the scratching, which in one disease is followed by wheals and in the other by an eruption of acuminated papules. The external origin of many skin lesions is, he believes, demonstrated by the simple experiment of wrapping a tumefied part tightly in a dry bandage, when the swelling will completely disappear. He did this in an undiagnosticated case of tumefaction of the skin which had lasted more than a year, and saw the part return to its normal color and size in less than ten days. He believes that the same nervous disturbance will produce now one lesion and now another, according to whether the vaso-motor influence acts on the arterial or venous capillaries or the lymphatics, and according to the condition of the walls of the vessels themselves. As to the cause of the vaso-motor disturbance we are still in ignorance. As a working hypothesis, we may suppose that it is a toxine secreted in the organism by pathological or non-pathological microbes acting upon a nervous system disturbed by a moral shock, alcoholism, excesses, fatigue, and the like.

A Case of Stigmata is reported by P. Ferroud in the *Loire médicale*, March 15, 1890, in the person of a prostitute, eighteen years old, who was hysterical. The hæmorrhages took place from the nasal and conjunctival mucous membranes, the external auditory canals, and the skin of different parts of the body. They appeared most frequently one or two days after the cessation of the menses, and lasted one or more weeks. They began like little vesicles or slight elevations, and with a dull pain. The affected area slowly spread.

Lupus of the Extremities, according to Dr. F. Hahn (*Archiv f. Derm. u. Syph.*, 1890, xxii, 473), is met with very frequently in the clinic of Professor Doutrelepont, of Bonn, no fewer than one hundred and five cases having been entered there from June, 1882, to January, 1890. These formed 24·5 per cent. of the entire number of lupus cases. Fifty-eight of them occurred in males and forty-seven in females. In forty-nine of the cases the original location of the disease was on the extremities, while in forty-four it was first seen on the face, in nine on the neck, and in three on the trunk. In only eight cases was the disease on the extremities the only symptom of tuberculous disease. In the rest there were evidences of enlarged glands, diseased lungs, or hereditary tubercular tendency, and in two cases the mothers had lupus. In more than one quarter of the cases (26·6 per cent.) the disease began before the fifth year of life. The upper extremities were affected fifty-five times, lower extremities thirty-two times, and the upper and lower extremities together eighteen times. The extensor surfaces were much more often affected than the flexor surfaces. In fourteen cases there were only old lupus scars; in thirty-nine, lupus serpiginosus; in fourteen each, lupus vulgaris, exulcerans, and hypertrophicus; and in twelve cases lupus papillosus. Under the last division are included cases of tuberculosis verrucosa cutis, which is regarded as unworthy of a separate title, its only distinguishing feature being its superficiality. Lupus caused very little interference with the functions of the limbs, excepting in cases where it was very widely distributed and produced very extensive scars. Occasionally when the lupus process surrounds the limb, or nearly so, and begins to cicatrize in some places, the pressure from the cicatrix will give rise to obstruction of the circulation, to an œdematous state, and finally to a condition of the extremity like elephantiasis, and sometimes requiring amputation for relief. Caries of the joint may likewise give rise to interference with the function of the limb.

Tuberculosis Verrucosa Cutis is the subject of a contribution to the *Archiv für path. Anat. und Phys. und für klin. Med.*, 1890, Heft 3, by Dr. Brugger, of Würzburg. In his case the disease was located on the right leg of a man twenty-two years old, of healthy parentage, and had existed since his third or fourth year of age. Apart from the skin lesion, the man was in good health. The affected leg was covered with a number of cicatrices and appeared somewhat thickened, and its skin felt hard and leathery. Over the tendo Achillis and on the back of the foot there was a recent bluish-red cicatrix, in the neighborhood of which were scattered numerous large and small elevations of the skin. Along the side of the foot there were three ulcerations with broad bases and overhanging edges. On the inner side of the thigh there were several old cicatrices and one recent one. Sections from the new lesions contained tubercle bacilli, and inoculation experiments upon a guinea-pig were successful, the animal dying of tuberculosis within six weeks. Brugger believes that this is the first time that an attempt has been made to inoculate an animal with a piece of a lesion of tuberculosis verrucosa cutis, and that the positive result is of great value in deciding the nature of the disease. It is to be diagnosticated from lupus by an absence of the characteristic lupus tubercles, by its having no disposition to return in the cicatrices, and by being more superficial. Otherwise their course is very much alike. From syphilis the diagnosis is made by an absence of the infiltrated wall and dirty brown-red color of the syphilitic ulcer, by its much more chronic course, and by the more deforming cicatrices that it leaves. It is probable that the so-called verruca necrogenica is the same as tuberculosis verrucosa cutis. Why infection of the skin by the tubercle bacillus should at one time produce lupus, at another time a tuberculous ulcer, at another time verruca necrogenica, and at yet another time tuberculosis verrucosa cutis, is a yet unanswered question. It is probable that individual peculiarities have something to do with it. The virulence of the poison may also play a part in determining the nature of the lesion. It is possible to have a general infection of the system follow a local infection, though this is exceptional. This event may take place either through the lymphatics or through the blood.

The treatment must be by destruction of the lesion by excision, by scratching out with the curette, by caustics, or by a combination of either of the first two methods.

Keloid forms the subject of an interesting study by Leloir and Vidal (*Annal. de derm. et de syph.*, 1890, No. 3). They follow the usual division into two varieties—the true keloid, primary, developing spontaneously, and rare, which they name the spontaneous keloid; and the false keloid, secondary to a pre-existing cicatrix, which they denominate the cicatricial keloid. Symmetry in development is regarded by them as characteristic of the true keloid. The growths enlarge with more or less rapidity till they attain to a certain size, when they remain stationary. Rarely do they undergo spontaneous diminution in size. Sometimes they form bands or cushion-shaped or claw-shaped figures; sometimes they form flattened, convex, or slightly concave plates; sometimes they are quadrilateral, or oval, or crab-shaped. Superficially the skin seems of normal consistence, the glandular orifices being preserved and the hairs not destroyed, though they are generally of the lanugo variety. The new growth is located in the corium, so that the epidermal layer is intact; and, as it never goes beyond the thickness of the skin, the tumor is always freely movable upon the underlying parts. The thickness of the new growth is as much as 15 mm. at times (about five eighths of an inch). The color is rosy, sometimes with teleangeiectases over the surface of the tumor and at its periphery. The color may be deeper at one time than at another, and menstruation is said to have the effect of darkening the color. The tumors are firm and elastic, indolent or painful on pressure or spontaneously. True keloids are more numerous in the same subject than the false variety and do not reach so great a size as a rule. There is a predisposition to these growths inherent in the skin of those who are subject to them. Microscopical examination of the tumors shows that the epidermis, interpapillary prolongations, and papillæ are of normal appearance, and this at once distinguishes the true from the false keloid. The true keloid is located in the corium. In its center there are no glands, but in the upper and lower part of it we find strangulated hair follicles and flattened and altered sebaceous and sweat glands, which become of more and more normal appearance as we approach the periphery of the tumor. No alteration of the nerves has yet been found. The tumors often seem to stand in relation to an altered sebaceous gland, and it may be that they take origin in an acne pustule.

The false or cicatricial keloid is not identical with the hypertrophied cicatrix. It arises secondary to some injury, no matter if even so slight a one as the prick of a pin, in a predisposed individual. It is specially prone to follow a deep injury or a burn. It may not begin for years after the injury, but it always begins in a cicatrix. If several scars are, present on the same part, all are not affected. As in the true keloid, the sites of predilection for the tumors are the sternal and mammary regions, the shoulders, the posterior part of the neck, the buttocks, the arms, and rarely the legs. They rarely appear during old age. The size of the tumor is in no sort of proportion to the extent of the injury. It grows rather faster than the true keloid, and exceeds the limit of the original cicatrix, in this differing from the hypertrophied scar, which does not advance beyond the borders of the cicatrix. Its surface is mother-of-pearl-like, shining, smooth, without any sign of papillæ glandular orifices, hair, or lanugo. As it enlarges, the outer parts are less altered in appearance. The hypertrophied scar does not go beyond the original loss of substance, is redder, more vascular, and softer than the keloid, and has no prolongations into the sound skin; it usually is painless, and sometimes terminates by resolution.

The treatment that, according to our authors, is the most to be relied on is by multiple scarifications. These are to be made at two millimetres' distance from each other and crossed in such a way as to describe square or lozenge-shaped figures on the skin, deep enough to reach almost to the depth of the tumor, and long enough to just go beyond its borders. Before scarifying, the part must be anæsthetized. There is but little loss of blood, and the bleeding is soon and easily checked. Immediately after the operation the part is to be dressed with boric acid and the next day covered with mercurial plaster, which is changed every morning and evening. These scarifications are to be repeated until the growth disappears, which, it is said, it will do.

A Case of Congenital Alopecia is reported by Dr. P. de Molènes in *Annales de dermat. et de syph.*, 1890, i, 548. The patient was a girl whose mother had had an attack of alopecia areata when she was nineteen years old, and whose brother had gone through the same experience when he was six years old. In the mother and the boy the disease was promptly mastered. The little girl was born so long after the others had recovered that contagion could not be thought of as a cause. The child was born with an almost imperceptible down upon the scalp, no eyebrows, hardly visible eyelashes, and well-developed nails. Upon the nape of the neck and occiput there was a series of very minute vascular nævi. The child was robust, well developed, and lively. At five months of age the rudimentary eyelashes fell out, and the scalp became white and smooth. At sixteen months of age a hand-glass showed the hair follicles of the skin to be open, but no sign of hair. There was no keratosis pilaris. Dentition was normal. Under stimulating treatment with soap frictions, ointments, and alcoholic lotions of various sorts, the hair gradually grew in during three years, so that all the scalp was covered but a small piece behind the left ear. The growth did not begin until after a year and a half of active treatment. There were no characteristic lesions in the hair, and there were no parasites. The case was probably dependent upon a nervous cause—a trophoneurosis inherited from the mother.

Alopecia Neurotica.—The advocates of the neurotic origin of alopecia areata will find comfort and support in an article by Askanazy in the *Archiv f. Derm. u. Syph.*, 1890, xxii, 523. He cites two cases from Professor Michelson's clinic in Königsberg. In one, that of a man thirty-one years old, the hair-fall was upon the right side and followed a facial paralysis of the same side consequent upon the removal of a tumor from the right submaxillary region. He also had hyperidrosis of the right side. The scalp was normal. In the second case the baldness occurred upon the face, temples, and pubes. The patient was melancholic and hypochondriac, and suffered from severe headache, burning of the top of the head, and insomnia.

Epidemic Zoster forms the text for a discourse by Dr. Weis, of Prague (*Archiv für Derm. und Syph.*, 1890, xxii, 609), in which it is attempted to be proved that because zoster occurs not infrequently in an epidemic manner, which nobody can deny, therefore it is an infectious disease, which seems hardly proved as yet. The strongest part of his thesis is that in which the theory of one Pfeiffer is overthrown. The theory is that the lesions of zoster are located along the arterial branches supplied to the skin, and not, as before believed, along the distribution of the cutaneous nerves. This theory our author completely upsets, which leaves us still free to believe in the nervous origin of the lesions, whatever we may regard as the chief ætiological factor in the disease.

The Pathological Anatomy of Psoriasis has been studied once again—this time by Dr. E. Kromayer, of Halle (*Archiv f. Derm. u. Syph.*, 1890, xxii, 557). Before proceeding to the demolition of various other theories in regard to this interesting subject, all of which have been based upon more or less careful studies of microscopical preparations by competent observers, he has a few words to say about the heretofore usual division of the skin into three layers—viz., epidermis, cutis vera, and subcutaneous tissues. He says that this is wrong, histologically, physiologically, and pathologically. Histologically, the upper vascular layers of the skin are entirely different from the rest of the skin, not only in regard to the connective tissue proper to it, but also as to its blood-vessels, lymphatics, and nerves. Physiologically, the papillary layer of the cutis belongs to the epidermis, being its nutritive layer. Its only relation to the rest of the cutis vera is that through the latter run the blood-vessels and nerves that are supplied to it. Regarding the skin as an organ proper, then, the epidermis would represent the parenchyma, while the papillary layer would be the interstitial tissue. Together they form an organ in whose physiological functions the cutis vera takes no part. Pathologically, the union of the epidermis and the papillary layer of the skin is evidenced by the common division of inflammatory skin diseases into superficial (those affecting the papillary part of the skin) and deep (those affecting the cutis vera and the subcutaneous tissue). Further, as we know that in certain parts of the skin the papillæ are entirely wanting, it would be best to give this layer a new name, and designate it as the *cutis vasculosa.* Inasmuch as it is desirable to employ some system of naming the parts of the skin to show that it is a parenchymatous organ similar to the kidneys, etc., the following is proposed, namely: 1. Cutis parenchymatosa, consisting of two parts—the epidermis and cutis vasculosa. 2. Cutis vera. 3. Subcutaneous connective tissue or hypoderm.

He now proceeds to an examination of the skin upon this basis of histological division. The study is far too long for us to give it in detail here; we can only give his conclusions: He finds the changes in the epidermis to consist in (1) a proliferation of the epidermis or of its epithelium; (2) a permeation of the epidermis with round cells which are heaped up under the horny layer in places; (3) an irregular formation of the stratum granulosum. As to the process of cornification of the epidermic cells, he says that a normal cornified cell consists of a cornified cell mantle and of protoplasmic cell contents which, with the exception of the nuclear cavity, are entirely without structure. The cells of the rete Malpighii possess a cell membrane, which increases in thickness and solidity the nearer we approach the horny layer. These cell membranes show the same physiological behavior as the corneous membranes—that is, they are transformed into large vesicles by the swelling of their cell contents. They have the same chemical reactions, resisting the action of potash, hydrochloric acid, and digestive agents, and differing from them only in that their powers of resistance are somewhat less. They are, therefore, corneous membranes in a young and tender state. The process of cornification is then a gradual and even progress through the whole thickness of the epidermis from below up to the horny layer, consisting in an ever-increasing thickening and solidification of the cell membrane. He regards the kerato-hyalin as only the histological expression of the necrobiosis of the cells of the epithelium.

His conclusions from his studies are as follows: Each efflorescence of psoriasis begins with a hyperæmia of the cutis vasculosa, to which an infiltration of cells is added. Soon after and coincidently with these changes an intense proliferation of epithelium takes place. The cutis vasculosa and the epidermis increase at the same time, and together form a thick papillary body; the cutis parenchymatosa is hypertrophied. During these changes numerous migratory cells have permeated the epithelium and disturbed the normal cornification; thus are formed the psoriatic scales in layers. The primary changes are, therefore, in the cutis vasculosa. These are not of an inflammatory nature, as there are lacking the five cardinal symptoms of the same—namely, "rubor, tumor, calor, dolor, functio læsa." There are also wanting fluid exudation, pustulation, granulation, and cicatrization. The process is not inflammatory. It is to be regarded rather as a progressive disturbance of nutrition, an hypertrophy of the parenchymatous skin in which the peculiar and characteristic formation of scales is due to an interference with the normal formation of the corneous layer by the migration of cells into the epithelial layer of the skin.

The ætiology of the disease is still a matter of doubt, no one of the theories (parasitic, dyscratic, idiosyncratic, or neuropathic) being satisfactorily proved. The only sure thing is that the parasite which causes, or may be the cause of, the disease is not a superficial one.

Seborrhœal Warts form the subject of a study by S. Pollitzer (*Monatshft f. prakt. Derm.*, 1890, xi, 145). As it emanates from Unna's laboratory, we are probably justified in reading "Unna" written between the lines. The malady appears most often in old people, and takes the form of more or less numerous, slightly elevated, round or oval, light-fawn to black-colored spots on the skin. These appear most frequently on the middle of the back, the lower half of the abdomen, the sternal region, and the anterior and lateral surfaces of the lower half of the neck. They frequently group themselves. In size they may be no bigger than the head of a pin, or they may attain the diameter of a twenty-five-cent piece. Histologically, they consist in a somewhat thickened stratum corneum and a markedly hypertrophied rete Malpighii; they show epithelioid cells in the papillary and subpapillary layers of the skin, which are arranged in groups and lines and separated from each other by connective-tissue fibers; a marked infiltration of fat pervades the epithelium of the neighboring sweat glands, the middle and papillary layers of the cutis, and the epithelium of the rete; finally, there is atrophy of the sebaceous glands and the hair follicles. They are considered to belong to the order of lymphangeiofibroma.

The Treatment of Trichophytosis Capitis and of Favus is discussed by A. Bertarelli in the *Bolletino della Poliambulanza di Milano*, 1890 (*Ann. de derm. et de syph.*, 1890, i, 596). He prefers the use of the pitch plaster to all other methods, and declares that patients find this manner of epilating much less painful than that with the forceps. It clears the scalp of hair much more effectively than the pinchers, and absolutely prevents self-inoculation. His plaster is composed of thirty parts of Burgundy pitch (résine de pin), eight parts of black pitch (pix navalis), two parts of Venetian turpentine, and one part of lard, spread upon small strips of linen. The crusts and scales are first removed from the scalp by the free use of grease and lead plaster, and then the strips of pitch plaster are applied. They are raised one by one after a day or two, and any hair that has escaped the plaster is to be removed with the epilating forceps. The scalp is then either washed with soap and water or bathed with a bichloride-of-mercury solution or Lugol's solution. Then the pitch plaster is reapplied, each time a more extensive area of the scalp being covered until the whole is enveloped in a true skull-cap. Thus the patient is gradually accustomed to the treatment, which must be continued for a varying number of months, say six to eight for favus and six to twelve for ringworm.

A Case of Syphilitic Infection of a Wife by her Husband Four Years and Nine Months after the Appearance of the Chancre has been reported by Charles Mauriac to the French Society of Dermatology and Syphilis (*Ann. de derm. et de syph.*, 1890, 1, p. 575). There was no reason to suspect that the woman came by her syphilis—a chancre upon the perinæum and a general erythematous syphilide—in any other way than by her husband. The man had been under thorough treatment by Dr. Mauriac from the time of the initial lesion. The infection of the wife took place four years and nine months from the date of the initial lesion of the husband.

Syphilis as an Infectious Disease in the Light of Modern Bacteriology is the long but attractive title to an able article by E. Finger in the *Archiv für Derm. und Syph.*, 1890, Hft. 3, fo. 331. Admitting that hypotheses, not exact knowledge, still prevail in much that is written and said about syphilis, he advances the theory that, besides the specific virus of syphilis, the ptomaine, which is the result of chemical changes caused by the presence of the virus, gives rise to many of the symptoms of syphilis, and is the agent by which many a fœtus becomes infected *in utero*. It is, moreover, the agent that produces immunity to syphilis, such as is seen in women giving birth to syphilitic children, themselves remaining apparently free from the disease, and able to nurse the children without infection. If the ptomaine is present in a certain amount, or the organism of the patient has good powers of resistance, the ptomaine will only protect against infection by the virus, producing immunity. If the ptomaine is present in large amount, or the organism has feeble powers of resistance, then it will give rise to such symptoms as cachexia, loss of hair, and most of the manifestations of the so-called tertiary stage. Such is a brief outline of the author's thesis. Taking up the article in the order in which it is presented, and almost unpardonably condensing it, we note the following as the basis upon which he builds his theory: I. The primary stage of syphilis. The initial lesion and multiple enlargement of the glands are due to the local increase of the specific virus, be this a bacillus or something else. At the same time the presence of the virus gives rise to certain chemical changes, the product of tissue changes, which produce alteration in the connective tissues, and contribute to the hardness of the affected parts. While we do not know the exact time at which the virus leaves the sclerosis and enlarged glands, we are quite sure that the ptomaine very early enters into the blood and lymph circulations and is distributed throughout the body. The amount of the ptomaine increases in geometrical proportion to the increase of the virus, and produces that general intoxication of the whole body seen at this time. At the same time with the general diffusion of the ptomaine through the circulation we have also a diffusion through the tissues in the neighborhood of the initial lesion. As expressions of the intoxication we note: 1. Immunity from further inoculation with the virus. 2. General symptoms, such as anæmia, fever, prostration, weakness, pains in the limbs and joints, albuminuria, icterus, neuralgia, and hyperæmia of the retina, all of which are too ephemeral and unstable to be due to a deposit of the virus itself. The fact that iodide of potassium exerts a healing effect on these symptoms while it has little if any influence upon the sclerosis, and, on the other hand, mercury influences favorably the latter but not the former, shows that there is a different chemical reaction in them, and strengthens the idea that they are due to different causes. II. The secondary stage. The various secondary lesions are due, without doubt, directly to the virus, but the constitutional symptoms are probably due to the ptomaine, as well as the seborrhœa, alopecia, and dryness of the nails. In malignant, precocious syphilis it is probable that the profound intoxication of the system by the ptomaine is responsible for the severity of the symptoms. In the latent period which follows the secondary stage we do not know what becomes of the virus in those cases in which later symptoms show themselves. Nor do we know when the virus leaves the system in those cases in which complete recovery seemingly takes place. During this period many subjects are not quite in normal condition. The most noticeable fact of this period is—III. The immunity against new infection. How long this immunity may last we do not know. That it probably is in some cases limited is shown by the well-authenticated instances of reinfection. Immunity does not prove that the individuals are still syphilitic any more than the immunity acquired from having had variola indicates that the individual still has variola. This immunity is due to the influence of the ptomaine upon the tissues, and may be acquired without passing through the active stage of syphilis. This is seen in the acquiring of immunity to infection on the part of the mother of a child syphilitic by the father. While it is possible for the virus to pass through the placenta from the fœtus to the mother, it is uncommon. But ptomaines must so pass, and while these are not capable of producing syphilitic lesions, they do render the mother immune to further infection with syphilis. The same thing occurs and produces like results when a healthy child is born to syphilitic parents. IV. The tertiary stage. It is the opinion of the majority of syphilographers that this stage is not the direct result of the syphilitic virus, but a consecutive diathesis, the virus having been eliminated. In support of this opinion we find: 1. The relative rarity of tertiary symptoms. 2. Their late appearance after infection. 3. The difference in the disease picture. 4. The non-contagiousness of the disease at this time. 5. The non-transmissibility of the disease. 6. The possibility of reinfection. 7. The different chemical reaction to mercury and iodine. 8. The fact that tertiary symptoms, like immunity, can occur in individuals who have never shown signs of primary or secondary syphilis. We see this both in the mothers who have gained immunity by carrying syphilitic fœtuses, and in children of syphilitic parents who, though never showing signs of active syphilis, exhibit great disturbances of nutrition, or pure tertiary lesions, late after birth. [The whole paper will well repay perusal, and we commend it to all students of this very interesting disease.]

Miscellany.

Inebriety and Life Insurance.—The American Association for the Study and Cure of Inebriety will hold the first of a series of monthly meetings at the hall of the New York Academy of Medicine, on December 10th, at 8 P. M. The subject of the evening will be presented in papers by Dr. T. D. Crothers, of Hartford, Conn., On Alcoholic Inebriety and Life Insurance, and Dr. J. B. Mattison, of Brooklyn, On Opium Addiction and its Relation to Life Insurance. Other physicians will participate in the discussion, and the medical profession are invited to be present.

Mosquera's Beef Meal is an alimentary preparation put upon the market by Messrs. Parke, Davis, & Co., of Detroit, who state that it represents, in actual nutritive value, at least six times its weight of good lean beef; that it is perfectly palatable, and will be tolerated with ease by the most delicate stomach; that it admits of being administered in a variety of forms, thus avoiding monotony in the food; and that it is the most nutritious as well as the most economical concentrated food.

The late Dr. Emil Neumer.—On November 4, 1890, a joint meeting of physicians and laymen connected with St. Mark's Hospital and the German Poliklinik, respectively, was held at the residence of Dr. Beck, 187 Second Avenue. The late Dr. Emil Neumer had been connected with said institutions for a number of years.

The following resolutions, submitted by a committee, were unanimously adopted:

Whereas, our friend, Dr. Emil Neumer, Supervising Physician of St. Mark's Hospital and a member of the German Poliklinik, has departed this life; and

Whereas, by his untiring zeal and singleness of purpose, he earned the good-will and gratitude of all connected with both institutions; and

Whereas, his self-sacrificing labors contributed largely to undermine his health, be it

Resolved, That the physicians and members of St. Mark's Hospital and of the German Poliklinik, at a special joint meeting assembled, do express their deep sense of grief at the untimely loss of their friend and fellow-worker, Dr. Emil Neumer, and further express their heartfelt sympathy with, and tender their condolence to, his bereaved family; and

Resolved, That a copy of these resolutions be published in the medical journals.

The Committee:
Dr. C. Beck,
Dr. H. J. Boldt,
Mr. F. A. Botty. } *For St. Mark's Hospital.*
Dr. Th. Busche,
Dr. S. Kohn,
Dr. George W. Rachel. } *For the German Poliklinik.*
Dr. H. J. Garrigues, *Chairman.*
Mr. Max Ruttenan, *Secretary.*

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, December 13, 1890.

Original Communications.

WHAT INFLUENCE WOULD A MORE PERFECTED OBSTETRIC SCIENCE HAVE ON THE BIOLOGICAL AND SOCIAL CONDITION OF THE RACE?*

By ALFRED L. CARROLL, M. D.

Whatever spiritual sins of mine may be stricken from the books of the Recording Angel, as fully expiated by the penitential attempt to answer the question allotted to me in this discussion, I fear that I shall add to my professional shortcomings in venturing upon an argument which depends almost entirely on an overstrain of the "scientific use of the imagination."

For a proper consideration of the problem we should possess statistical evidence of the mortality and morbidity of mothers and children respectively, due, immediately or remotely, to parturition, and of the degree in which such mortality and morbidity may be regarded as preventable. This evidence, however, is in all respects scanty, and in some absolutely non-existent.

"Still-births" are not officially registered either as births or deaths, and even in the very imperfect occasional records of them it is impossible to separate the fœtal deaths before he beginning of labor from the deaths during birth or soon after birth, the latter being often reported under this category; nor can we determine, outside of a few hospital reports which represent an infinitesimal fraction of the total hild-bearings, the proportions of abnormal presentations, of deformed maternal pelves, or of spontaneous or artificial deliveries in these alleged still-births, the vast volume of private midwifery being virtually a sealed book. Quételet computed the ratio of still-births to total births as 1 in 12·5, or a ittle over 8 per cent., but he evidently included many children who had breathed before dying, as is demonstrated by he contemporaneous tabulation of Mme. Lachapelle's experience, comprising 22,243 births, with a total mortality of 1,600, being 1 in 13·9, or 7·2 per cent. But of these, 763 were not born dead, 633, or 2·85 per cent. of the total births, being classed as "feeble"—*i. e.*, "apoplectic, premature, etc."—116, or 0·52 per cent., as "abortive" (non-viable), and 14 as monstrous or deformed, leaving 837, or 3·76 per cent., actual still-births. This accords with the few later estimates founded on sufficient numbers to warrant generalization. Farr opined that in England the proportion was about 4 per cent., in Belgium (1860–1865) it was reported as 3·7 per cent., in France (1875) as 3·6 per cent.

There are no means of ascertaining how many of these "dead-born" are done to death during the act of parturition, but that the number is very great may be inferred from a comparison of spontaneous and artificial deliveries, the latter of which are usually performed on account of mechanical obstacles in the genital passages, uterine inertia, maternal hæmorrhage or convulsions; or, on the fœtal side, malpresentations, prolapse of cord or arm, or deformities of various kinds. From the subjoined condensation which I have made of Lachapelle's tables, it is shown that in all the spontaneous deliveries (omitting those of the shoulder, in which the two still-born are specified as "putrid") the ratio of the dead-born is 3·5 per cent., while in the artificial deliveries it rises to 25 per cent.:

PRESENTATION AND DELIVERY.	Total.	Living.	Dead.	Feeble.	Abortive or deformed.	Total deaths.	Excluding non-viable children.
Vertex, spontaneous	20,567	19,450	635	462	20	1,117 = 5·43%, or 1 in 18·4	1 in 18·75
" forceps	72	38	17	17	...	34 = 46·6% " 1 " 2·1	
" version	47	29	8	10	...	18 = 38·3% " 1 " 2·6	
Face, spontaneous	88	78	3	6	1	10 = 11·36% " 1 " 8·8	
" forceps	5	1	1	3	...	4 = 80·00% " 1 " 1·25	
" version (inertia)	7	4	...	3	...	3 = 42·86% " 1 " 2·33	
Pelvic, spontaneous	790	575	101	98	16	215 = 27·2% " 1 " 3·67	1 in 3·9
" version	12	6	3	3	...	6 = 50·0% " 1 " 2	
Shoulder, spontaneous	12	....	2	...	10	12 = 100%	
" version	106	63	26	17	...	43 = 40·57%, or 1 in 2·5	
Brow, changed to face	2	1	...	1	...	1 = 50·0%	
Craniotomy	12	....	9	...	3	12	
Hysterotomy, after death of mother	4	....	2	2	...	4	
Presentation undetermined, spontaneous	517	397	29	11	80	120 = 23·2%, or 1 in 4·3	1 in 12·9
" " version	2	1	1	...	...		
Total spontaneous	21,974	20,500	770	577	127	1,474 = 6·7% " 1 " 14·9	1 in 16.3
" artificial	269	143	67	56	3	126 = 46·8% " 1 " 2·13	1 " 2·19
" spontaneous and artificial	22,243	20,643	837	633	130	1,600 = 7·19% " 1 " 13·9	1 " 15·13

Further analysis of the presentations and accidents of labor is necessary to gain a partial view of the cases in which obstetric science and art may lessen this mortality, which means the death, at or soon after birth, of nearly seventy-two thousand children out of every million born.

In the vertex presentations, spontaneously born, of Lachapelle's table, the "dead" were 1 in 32·4, and the "feeble" (dying within a day or two) 1 in 44·4, the only commentary made being that, in ten or twelve instances, the cord was prolapsed, half of these dying during delivery. Of her artificially-aided vertex deliveries, the "dead" were 1 in 4·76 and the "feeble" 1 in 4·4. But in the 72 applications of the forceps, 39 were for uterine inertia or rigidity of the external genitalia, 8 for pelvic contraction, 2 for "scirrhus of cervix," 1 for hæmorrhage, 1 for uterine obliquity, 8 for maternal convulsions, 9 for faulty positions of the head, 3 for prolapse of the cord, 1 for prolapse of arm—that is to say, in 59, or 82 per cent. of the whole, the dystocia was due to maternal causes, the children dead or dying being 1 in 2·1, and to fœtal causes in 13, or 18 per cent., with the same ratio of mortality. The versions in head presentations, 47 in number, comprised 24 for inertia, 6 for contracted pelves, 1 for rigidity, 1 for recto-vaginal cyst, 8 for hæmorrhage, 5 for prolapsed cord, 1 for prolapse of hand, and 1 for parietal position; 40, or 85 per cent., maternal causes, with 1 in 2·5 children dead or dying, and 7, or 15 per cent., fœtal causes, with a death-rate of 1 in 3·5. Of the cases due to inertia, convulsions, and hæmorrhage a considerable proportion would doubtless be averted by hygienic precautions, especially during pregnancy, but in the majority of instances, and particularly in hospital practice, the physician has little or no opportunity to enforce these precautions, and among the poorer classes too often the conditions of health are unattainable.

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* Read before the New York State Medical Association, October 23, 890.

The face presentations in Lachapelle's catalogue were 100 in number, or 1 in 222·4. Of these, 88 were spontaneously born; 9, or 1 in 9·7, dead or dying. Of the 5 forceps deliveries and 7 versions, all were for inertia except 1, in which a brow presentation was rectified by forceps, the mortality being 1 in 1·7. Thus, in all the face presentations, we find a mortality of 1 in 6·25, or 16 per cent. Lusk computes the ratio of these presentations as 1 in 255·5, and quotes Winckel's statement that the mortality of children is 13 per cent. Swayne estimates the frequency as 1 in 231. The experience of Collins shows a mortality of 12 per cent. Most of these records, however, concern only the children born dead, omitting those which die soon after birth, so that the estimate based on Lachapelle's table is probably nearest to the actual death ratio.

Pelvic presentations (including breech, foot, and knee) are stated by Lachapelle as 1 in 27 labors; by Swayne and Tanner as 1 in 38, the breech presenting about twice as often as the feet or knees. The mortality, according to Lachapelle, is a little over 25·5 per cent.; to Tanner, 33 per cent.; to Meigs, over 20 per cent.; to Collins, 37 per cent.

Shoulder presentations are, by the estimates of different observers, as follows: Lachapelle, 1 in 188·4; Churchill, 1 in 252; Spiegelberg, 1 in 180; Depaul, Dubois, and Pinard (quoted by Lusk), 1 in 117; Swayne and Tanner, 1 in 231; the infant mortality being about 50 per cent.

The comparative frequency of brow presentations is not easily estimated, since many of them are spontaneously converted into face or vertex before a diagnosis is made. As regards the mortality of children in recognized cases, Lusk cites 34 deliveries: 10 spontaneous (brow continuing), with 3 deaths during labor; 10 converted to face or vertex naturally, with 1 death; 9 extracted by forceps, brow first, with 1 death (from prolapsed funis); 5 changed by forceps to face or vertex, with no deaths—a total mortality of 4 attributable to the presentation, or about 12 per cent.

Taking the averages of all the data which I have been able to obtain, the probable frequency and child mortality (excluding non-viable fœtuses) of different presentations in a million births may be thus approximately stated:

PRESENTATION.	Total.	Dead or dying.
Vertex	960,000	53,500
Face	4,000	640
Pelvic	30,000	9,000
Shoulder	5,000	2,500
Undetermined, including forced delivery for maternal convulsions or hæmorrhage, embryotomies, contracted pelves, etc.	1,000	360
Total	1,000,000	66,000 = 6·6%, or 1 in 15.

In addition to these, there will be about 5,800 non-viable children, raising the death list to 71,800 = 1 in 13·9.

In the course of these million labors we shall meet with about 600 cases of placenta prævia, 4,000 of prolapse of the cord, 1,000 of contracted pelvis, and 2,000 of maternal convulsions (including those which occur before or after delivery as well as those during labor), with a maternal mortality of 1,400. Artificial delivery by forceps or version will be necessary in somewhat over 12,000 cases, with nearly 5,500 infant deaths. Of these instances of dystocia, about 48·5 per cent. will arise from maternal causes, and about 51·5 per cent. from fœtal causes. In the former category uterine inertia plays the largest part.

To what extent this loss of infant life may be reduced is a mere matter of surmise, but in its reduction obstetric science and hygiene must work together. The correction or better management of malpresentations is already showing beneficent effects in the practice of experts, and will doubtless ere long improve the general results; but even here there is room for great advance. The mortality from either natural or artificially induced pelvic presentations is, in the majority of examples, owing to compression of the cord, and this mortality is so large as to cast a shadow of doubt upon the propriety of podalic version in many cases in which it is advocated by some eminent authorities. According to Churchill, version in normal pelves is fatal to more than one third of the children, and in contracted pelves the death-rate is, of course, much larger. Lusk, who is wisely conservative in this respect, argues that, with a conjugate diameter of more than three inches and a half, nature is, as a rule, adequate to accomplish delivery. In the statistics cited by him, version in ordinary flattened pelves was followed by the death of 50 per cent. of the children; version in generally contracted pelves by about 90 per cent. of fœtal deaths; with the use of forceps above the brim, nearly 40 per cent. of mothers and over 60 per cent. of children died; while in spontaneous deliveries less than 3 per cent. of mothers and 13 per cent. of children were lost. Inasmuch as a large proportion of deformed pelves arises from rickets in early life, and a smaller from malacosteon in later years—both being principally results of insanitary conditions—it is not only possible, but probable, that, as the knowledge and application of hygiene become more diffused, these causes of dystocia will be vastly diminished in number; indeed, their frequency is demonstrably in inverse ratio to the prosperity of a community. So, also, watchfulness and prophylactic treatment during pregnancy may (and in the best practice do) decrease enormously the percentage of puerperal convulsions.

Premature or abortive births, as they arise from general ill health or local disease of the mother (including many cases of placental degeneration), or, occasionally, from chronic lead poisoning, may to a certain extent be preventable by hygienic or gynæcological means; those from external violence or nervous shocks will continue to hold their place on our records as long as feminine impulsiveness, staircases, and brutal husbands exist, and autocratic drivers usurp their reckless right of way.

As regards the effects of dystocia on the later life of the child, little can be learned. In patients whom we see as adolescents or adults we can rarely ascertain the character of the birth or the condition of infancy. None of us can doubt, however, that the morbility from this source is very great. From the French returns Farr calculates that out of a million children born, 29,121 die in the first week, 22,128 in the second week, and 22,236 in the next sixteen days, making a total of 73,485 in the first month. The English Life Table computes a somewhat less mortality—*i. e.*, 46,500 deaths in the first month, 17,200 in the second, 12,180 in the third, 10,100 in the fourth, 9,550 in the fifth, 9,030 in the sixth, 8,550 in the seventh, 8,080 in the eighth, 7,660 in the ninth, 7,250 in the tenth, 6,870 in the eleventh, and 6,520 in the twelfth, a total of 149,490 to the million in the first year. Many of these early deaths are produced by insanitary conditions, as is proved by the difference between the "healthy districts" of England and Liverpool, in the former of which 36,610 per million children die within the first month, while in the latter the mortality during the same period is (or was when Farr's analysis was made) 54,490 to the million. It is to be regretted that the registration of vital statistics is so imperfect in this country as to preclude any attempt to classify by months the mortality under one year; but the data, such as they are, indicate that, in the United States generally, about 25 per cent. of live-born children die during the first twelvemonth.

It would not be unreasonable, perhaps, to assume that at least half of the deaths under one month are attributable to accidents in parturition, and that a large residuum of those occurring in the first year has a similar origin; but the admirable reports of Farr may enable us to go a step farther in the field of inference. The death-rate under one year per 10,000 births in England, for the three years ending with 1875, was 1,527. Of these, 95 were ascribed to the acute zymoses, 29 to "teething," 171 to diarrhœa, 263 to "lung diseases," 98 to tuberculosis, 128 to prematurity, 267 to "atrophy," 14 to "suffocation," and 251 to convulsions, leaving 211 "not stated." The deaths from prematurity, "atrophy," and convulsions constitute nearly half of the mortality, all of the former and a considerable proportion of the latter two being referable to the time or act of parturition, and some of the pulmonary disorders having their predisposition, if not their origin, in atelectasis at birth. In Farr's *March of an English Generation*, based on the labor of over thirty years, he computes that the average deaths per million under one year will be 149,493, of which 30,637 will be from diseases of the nervous system and 21,995 from respiratory maladies. West, taking a wider view of "nervous" disorders, ascribes to these 30·5 per cent. of all the deaths under one year, and to convulsions alone 73·3 per cent. of the "nervous-system" mortality—equivalent to 33,421 to the million births.

After the earlier weeks of this perilous first year, convulsions, like "atrophy," are often due to maternal neglect or improper management (most notably in the administration of the various atrocious infant foods which flood the market and fill our waste-baskets with their "sample packages"), and sometimes are reported as causes of death when they are really but forerunners of rapidly fatal febrile disorders. But in an unascertainable proportion of cases they are unquestionably the result of compression of the head during delivery, and in such instances, according to West, tend to recur without obvious exciting cause, and to retard or retrograde mental development, leading very often to later epilepsy. Beau (quoted in Reynolds's *System*) found, out of 211 epileptics, 17 (8 per cent.) congenital, and Hughlings Jackson observes that "epileptic fits in adults not rarely date from convulsions in infancy." Nothnagel assigns to overlapping of the cranial bones during forceps extractions or tedious and difficult labors the causation of meningeal hæmorrhage—usually extravasation into the meshes of the pia—from which the children in the majority of instances are either born dead, or linger for a short time, or, rarely, recover to swell the morbidity of succeeding years. Erb refers to the occurrence of spinal meningeal hæmorrhage from difficult or instrumental labor. The principal injuries to the child in dystocia or instrumental interference are: depression or fracture of cranial bones, with or without laceration of brain; "apoplexy of nervous centers"; too tight hold of the forceps, leading occasionally to hemiplegia; and ruptures of viscera.

These considerations emphasize the importance of sound judgment to decide between the dangers of compression of the head by the maternal genital passage or by the forceps, and to determine when to apply the latter to the best advantage. It is undeniable that many lives which would have been sacrificed in the days of traditional prejudice against artificial aid are now saved; but there is reason to fear, with Playfair, that "the pendulum may have swung too far in the opposite direction." Not alone in simply tedious labors without indication of incompetence of the natural powers, but frequently to accelerate normal parturition, for the mother's comfort, or for economy of the accoucheur's time, forceps are used with as little regard for the welfare of the infant as the average street-car conductor has for the expectant passenger, or the "protectionist" legislator for the interests of the unprotected consumer, and, in inexpert hands, with a plentiful crop of maternal lacerations for the lucrative reaping of gynæcologists. Lawson Tait's disputed statement—that the infant mortality from forceps delivery in impacted labor is 1 in 7 or 8—is corroborated by Dr. J. G. Swayne (*Brit. Med. Journal*, April 26, 1890), who reports 211 instrumental extractions in difficult and protracted labors, "without reckoning complications," and 30 fœtal deaths, or 1 in 7; pointing out a hitherto unnoticed source of danger in the accidental pressure of the cord against the child's neck or head by the blade of the forceps.

Excessive mortality—implying a still greater morbidity

—continues through the first five years, the deaths during this period, in England, being 263,182 to the million births. In this State, by the only method of calculation possible, they constitute 37 per cent. of the total deaths at all ages. Deducting the first year's fatality, the subsequent four years produce 113,689 deaths, of which 9,428 are from diseases of the brain and 23,950 from respiratory diseases and phthisis. In Massachusetts the registration reports, as cited by Dr. T. B. Curtis (Buck's *Hygiene*), attribute from 10 per cent. to 15 per cent. of all deaths under five to "tuberculosis and scrofula." More than half of the death and sickness of this first lustrum arises from insanitary environment, as is evident from a comparison of the statistics in healthy and unhealthy districts, and is therefore amenable only to general hygiene, and about one third from zymotic disorders; but of the remainder an important reduction may be hoped for in the progress of obstetric science and art. After the age of five years, official statistics afford no ground for even guessing the effects of dystocia or premature births upon mortality and morbility; but the experience of most observant physicians will support the conclusion that they are by no means insignificant.

Turning now to the maternal aspect of the question, and relying, as before, mainly upon Farr's English statistics, we find that of the 488,255 girls born in the hypothetical million whence his "generation" takes its start, 342,281 pass the age of fifteen. Of these, 79 per cent., or 270,402, marry. According to the inquiries of Sir James Simpson and others, about 10 per cent. of marriages are sterile; so that 243,362 of these wives bear children at the rate of 5·23 each, and 6,921 perish in consequence of the process, or 1 in 35 mothers in all their childbearings (2·8 per cent.), which is equivalent to 1 maternal death in every 183 parturitions. These figures apply to all classes of the population, and, of course, overstate the mortality where skilled assistance is at hand. Thus the maternal mortality from childbirth is variously estimated by obstetricians as from 1 in 200 to 1 in 212, while Dr. Rigden (quoted by Farr) in 4,132 private cases had a death-rate of less than 1 in 516. In the records of hospitals and of the experience of consulting obstetricians, more difficult cases, and consequently a higher rate of fatality, are likely to occur. From our prophylactic point of view, it is desirable to discriminate the deaths directly due to the act of parturition from those caused by secondary puerperal diseases, and this has been done by Farr in his separate classification of "metria" and "other accidents of childbirth." We have further to consider the influence of age during the fertile period of woman's life, which, in temperate latitudes, may be regarded as extending from fifteen to a maximum of fifty-five. The following table shows the ratio of deaths of mothers to the number of children born:

Age.	Metria.	Accidents of birth.	Total.
15–25	0·277%, or 1 in 361·7	0·391%, or 1 in 255·75	0·668%, or 1 in 149·7
25–35	0·148% " 1 " 675·7	0·277% " 1 " 361·7	0·425% " 1 " 235·3
35–45	0·154% " 1 " 649·3	0·479% " 1 " 207·9	0·633% " 1 " 157·9
45–55	0·163% " 1 " 613·5	0·720% " 1 " 138·9	0·883% " 1 " 113·2
15–55	0·172%, or 1 in 581·4	0·358%, or 1 in 279·3	0·530%, or 1 in 188·7

In the State of New York about 1 per cent. of the total mortality from all causes is returned as "puerperal," but this includes other accidents of parturition also.

Nearly the whole of the mortality under the head of metria ought to be avoidable by aseptic midwifery and after-management, vastly diminishing the perils of the lying-in chamber, especially to primiparæ, and obstetric skill may lessen that from other accidents of childbirth. We hear less now than thirty years ago of metritis or sloughing from too prolonged pressure, of rupture of the uterus, of fatal exhaustion or post-partum hæmorrhage; but, even with our better modern training, a great part of such preventable lethality will remain beyond our control as long as ignorant and uncleanly midwives conduct the majority of labors among the poorer classes; for, particularly in rural districts, nearly half of all confinements take place without the attendance of a physician. The enormous amount of morbility entailed upon women who escape death is familiar to every one who has seen much of gynæcic practice. Moreover, it is among the overworked and often underfed poor that malpresentations and pelvic deformities are most prevalent and obstetric skill most needed. To demonstrate how much such skill may accomplish, Dr. J. T. Hartill (*Brit. Med. Journal*, September 27, 1890) has recently reported the results of 2,000 consecutive confinements, largely among the wretched operatives in the "Black Country," comprising 14 cases of complete or partial placenta prævia, 61 pelvic presentations, 24 transverse, 60 contracted pelves, 29 cases of uterine inertia, 12 of rigidity of soft parts, and 1 of ovarian tumor; 164 applications of the forceps (1 in 12 of all labors); yet, despite these adverse circumstances, there were but 8 maternal deaths from childbirth, or 1 in 250 mothers, 2 from subsequent metritis, 1 from embolism, 1 from phthisis, and 1 from pneumonia—a total mortality, assignable to labor, of 11, or 1 in 182.

The term "aseptic midwifery" has been advisedly used, because in obstetrics, as in surgery, our duty should be to preserve from infection rather than to wait to combat it after it has occurred; and this is usually practicable in the domiciles of the well-to-do. Amid unwholesome surroundings, "antiseptic" measures may be prudently adopted; but these need hardly extend to a bichloride baptism of the child's advancing head or to its birth into a carbolized fog, and enough cases of obstetric poisoning by corrosive sublimate have already been recorded to render us cautious in the employment of strong solutions of so dangerous an agent.

Imprudence or mismanagement after parturition is a fertile source of local disease or general ill-health, reacting, almost of necessity, upon subsequent offspring, and so, to a certain extent, upon the biological condition of the race.

Nothing has been said of the graver ventures of modern obstetric surgery, such as Saenger's modification of the Cæsarean section, Porro's or Thomas's operations, or the surgical treatment of extra-uterine pregnancy, for the reason that these are still *sub judice* among those to whom we must look for an authoritative opinion, and the cases requiring them are happily too few to warrant statistical deductions. The object I have had in view has been to present sufficient data whereon to base a conjecture, if nothing more, of the saving of life and health which may yet be effected by obstetric medicine.

As regards social conditions, I have little to say beyond expressing the belief that misery rather than midwifery is responsible for most of the degradation which blots our vaunted civilization. It may be that in some cases such misery is the outcome of physical disability dating from birth or parturition, but in more instances it is the result of acquired vicious habits. Social statistics show that the numbers of murders, suicides, and other kinds of crime bear about the same proportion to population every year; but of the ætiology of criminality nothing can be positively affirmed. Even those who dogmatically ascribe all the ill-doings of the world to alcohol have still to find some antecedent factor, and to explain why the vast majority of consumers of alcoholic beverages refrain from crime. Inebriety is often the excitant, but the predisposition must be sought behind it. "*In vino veritas*" has a wider philosophical meaning than they who quote it ordinarily wot of.

Recent anthropometric examinations of convicts have frequently detected cranial malformation or asymmetry; it is not yet proved, however, that this is more common in criminals than in the law-abiding classes, and, if it were, the wildest flight of fancy would fail to reach a guess of its possible connection with dystocia. If it be considered that civilized life is artificial, and that the absolutely natural man would be, in the eyes of the civilized man, an habitual criminal—gratifying all his animal propensities; taking, furtively or forcibly, whatsoever he coveted; killing his brother savage when prompted by any grievance; stealthy or violent in accordance to the degree of his strength and courage—then the "reversions to a lower type" which police records depict may be better understood, and imputed, after the hereditary transmission of an imbruted organization, to neglected childhood, lack of moral training, and evil communications.

The vexed question of heredity (not so much of disease as of proclivity to disease) has little relation to obstetrics, save as it has led some enthusiasts to imagine an impossible prophylaxis by forbidding the marriage of physically, mentally, or morally unhealthy persons, and in this way diminishing obstetric practice, except in illegitimate births; and it is doubtful if anything but a destructively retrogressive midwifery or an increasing prevalence of oophorectomy can materially reduce hereditary morbidity, since delicate, and especially consumptive, women seem to be more apt to conceive and less likely to miscarry than their more robust sisters. As a "glittering generality" it may be asserted that every obstetric advance which saves mothers from invalidism and children from incapacity for future effort must promote the social condition of the race; but politico-economic rules and the inexorable operation of natural laws will probably always overshadow in this respect the influence of medical science, or even of congressional legislation.

CHRONIC DISTURBANCES IN JOINTS.*

By FRANK HARTLEY, M. D.

My object in presenting a paper upon this subject is simply to give expression to the fact that I consider the proper diagnosis of chronic joint disturbances is the *only* means of deciding the treatment. We have now *so many* methods of treatment recommended for these disturbances, so many attestations to the superiority of the one over the other, that, when we come in contact with a chronic disturbance in a joint, we are completely bewildered in a choice. For some it is quite sufficient that the disturbance is chronic alone. The ætiology, the condition within the joint, and the natural course of the disease are completely overlooked. They treat rheumatoid arthritis, arthritis deformans, arthritis nodosa, and even neuropathic joints, with antirrheumatic and antisyphilitic remedies, apply splints and counter-irritation to papillary and cartilaginous synovitis, look upon syphilitic arthritis in children as tubercular, and subject osteomyelitic arthritis to a long course of antirrheumatic treatment. Out of this medley of opinion as to treatment the best course is a correct diagnosis, for, if we lay aside the various remedial agents and begin at the other end, establish correctly the diagnosis, the ætiology, the condition within the joint, and the natural course of the disease, the means of cure, where such exists, become very few in number. I refer particularly to those varieties known under the head of chronic rheumatic arthritis, arthritis deformans and nodosa, the malum senile, the neuropathic, syphilitic, and metastatic arthritides.

An exact knowledge upon many of these varieties is wanting, so that we are forced to classify them, anatomically and according to their lesions, as they exist in the articular ends of the bones, the cartilages, the synovialis, the ligaments, and the parasynovial tissue. The bones and the synovial membrane are important not only as the place of origin, but, with the cartilage, ligaments, and parasynovial tissue, as giving us the local manifestations of the lesions.

The synovial membrane, the intima of which is rich in cells, possessed of a well-marked vascularity, and surrounding a cavity filled with fluid favorable to the generalization of any focus, responds quickly to disturbances of nutrition and inflammatory irritants.

In chronic disturbances of nutrition and inflammatory processes the changes observed are its increased vascularity, its thickness, and its greater density. The normal folds and tufts which exist in childhood and old age, at the reflection of the synovial membrane upon the bones near the cartilage, inclose within them a rich network of blood-vessels or fat, or consist of a comparatively non-vascular fibrillary tissue, with or without inclosed cartilage cells. In chronic pathological processes these become enlarged and vascular, and, according to the predominating changes, give us the variety of synovitis.

In the chronic serous synovitis (the hydrops articulorum chronicus) these simple changes are present, with a large amount of serous fluid, with or without fibrinous flocculi (or a fluid colloid in character), distending the capsule to such an extent in some cases as to produce herniæ of the synovial membrane.

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* Read before the New York Clinical Society, September 26, 1890.

In many cases of syphilis, and especially in arthritis deformans, newly developed and dendritic tufts and villi cover the entire surface of the synovialis, forming irregular and dense sessile or pedunculated outgrowths.

As these papillary growths may consist of a vascular network, fat or cartilage, the varieties of synovitis have been named synovitis chronica serosa, papillaris, prolifera, simplex, cartilaginea, and lipomatosa (lipoma arborescens articulationis). Moreover, in some cases a new factor is added in that fibrin is deposited upon the synovial membrane itself, its papillæ or tufts, producing in this manner a number of thick, rounded, or irregularly-shaped nodules, sessile or pedunculated.

Composed thus of fibrin and the contents of the tufts and papillæ, or of fibrin alone, these, when loosened or floating within the joint, give rise to the varieties of corpora oryzoidea. Such a condition is seen in the chronic serous and tubercular synovitis, and, together with other varieties of corpora aliena, exist in arthritis deformans and neurogenic arthritis. In the so-called chronic rheumatic arthritis the synovialis presents, besides its vascularity, a new connective-tissue growth with cicatrization. This process, synovitis cicatricans, exists not only in this variety (best seen in the arthritis rheumatica chronica ankylopoietica), but also in all suppurative processes, especially in catarrhal and gonorrhœal synovitis. In the so-called secondary period of syphilis we have to do with a simple serous synovitis; but in the tertiary and hereditary syphilis—though, so far as the synovialis is concerned, we find about the same changes—the prevailing and characteristic marks are the papillary growths and the gummata in the subsynovial fatty tissue at the reflection of the synovialis, in the fibrous capsule, the bones, and the neighboring bursæ.

The importance of the cartilage as a starting-point for inflammatory changes within a joint is not of moment. It is non-vascular, it receives its nutrition by plasmatic circulation, and is dependent upon its neighboring structures for the changes which may occur within it.

Yet we recognize such conditions as chondritis pannosa granulosa (cribrosa) and hyperplastica, but consider them only as depending upon similar conditions in synovialis or bones.

In the simple chronic joint inflammations (disturbances of nutrition) the cartilages are not generally involved other than that they are more opaque than usual. In the chronic non-suppurative processes the cartilages are at the most superficially fibrous from an extension of similar processes in the synovialis; whereas in the suppurative and tubercular involvements, granulation tissue from the bones and the synovialis extends over and into the cartilage. In the acquired syphilis in the tertiary stage and in the syphilis of children, defects in the cartilage occur, resulting in the loss of a portion of it and its replacement by a radiating connective-tissue scar from gummata in deeper portions of the articular ends of the bones, or in the cartilage adjacent to the bone.

In the arthritis rheumatica chronica ankylopoietica the cartilage is superficially fibrous and vascular from the vessels within the synovialis and spongiosa of the bones. As this process advances, a gradual transformation of the cartilage into connective tissue takes place, and opposing surfaces become united. As this connective-tissue transformation of the cartilage does not involve the whole surface of the cartilage at once, spaces covered with an uninvolved cartilage remain between these connective-tissue areas, and the original joint cavity becomes subdivided into a number of smaller cavities filled with fluid. In the senile arthritis the cartilages are likewise fibrous, but upon pressure points an "Usur" occurs, which subsequently leaves the bone bare (the articular lamella), polished, and eburnated. In the arthritis deformans, on the contrary, marked changes take place in the cartilage. Superficially it is fibrous and fissured, but in the deeper portions—*i. e.*, near the bone—circumscribed foci of softening are present. These changes result in the formation of a cancellous tissue, which toward the center of the cartilage undergoes a further process of absorption, with a gradual disappearance of the cancellous lamellæ and a partial destruction of this osteoid tissue, which has here replaced the cartilage in its lower layers. Superficially the cartilage remains fibrous, sclerosed, and fissured. On the periphery of the cartilage, on the contrary, tuberous outgrowths (stalactites) occur, consisting of bone and cartilage, and so raising the articular cartilage that the former level is altered. This latter process, together with the central foci of softening, leads to a complete transformation of the joint in which irregular and tuberous outgrowths, bony and cartilaginous, occur upon the borders of the cartilages, while centrally it is hollowed out, grooved, and eburnated. In the severer neuropathic arthritis the shape of the joint is likewise altered in a remarkable manner. The cartilage is, however, simply dissolved, leaving the bony extremities bare.

In consequence of the use, the bone becomes smooth and deeply grooved, and, owing to its brittleness, subject to continual fracture and repeated hæmorrhages. In this manner is explained the variety of foreign bodies found in such joints, the bony, the cartilaginous, and fibrinous coagula. They are due in part to the multiple fractures, in part to the cartilaginous and papillary synovitis.

In the metastatic and severe purulent synovitis, foci are found in the spongiosa of the articular ends of the bones; whereas in the non-tubercular chronic inflammations, the senile, the neuropathic, and the arthritis chronica rheumatica ankylopoietica; the bones are atrophied, softened, and give evidences of retrogressive metamorphosis. In the arthritis deformans, besides the gradual transformation of the deeper portions of the cartilage into an osteoid tissue and a sclerosis of the superficial layers, there is an osteitis rareficans of the articular extremity in which the salts of lime being wanting, renders the bone softer than usual, so that, on pressure point, grooves and fissures are found; and where no pressure is exerted, tuberous outgrowths in various stages of calcification may be seen. In the syphilitic joint inflammations the bones are the seat of a syphilitic caries (syphilitic osteomyelitis) or of gummata, and in many cases of hereditary syphilis of a syphilitic osteochondritis and periostitis.

These gummata are most frequently situated, however, upon the peripheral portion of the ends of the bones, and are rarely within the spongiosa; whereas in tuberculosis the process begins near the epiphyseal line in the form of a grayish-red or whitish mass of tubercles or granulation tissue, or in the form of a more diffuse tubercular infiltration of the spongiosa. The bones in syphilis are not *greatly* changed in form, yet there is always some hyperostosis.

The changes occurring in the fibrous capsule and ligaments are seen principally in relaxation or contraction.

They are contracted in chronic polyarticular rheumatism (art. chronica rheum. ankylopoietica), malum senile, and in the continued fixation of chronically inflamed or even normal joints. They are relaxed in arthritis deformans, neurogenic and rhachitic joints. All other changes occurring within these structures are similar to those occurring within the joint.

In a diagnosis of the variety of joint disease we are to examine carefully the condition of the synovial membrane and bones principally, as well as the cartilage, ligaments, and parasynovial tissue. Unless such a careful and accurate local examination is made, we are prone to mingle one form of chronic inflammation with another and to neglect to make use of one of the most important means toward an accurate diagnosis. So similar are the changes in the synovialis that, unless careful attention is given to the rest of the joint, the anatomical part of the diagnosis is overlooked and an attempt is made to decide the case upon subjective symptoms alone. This very thing is too often performed in a perfunctory manner, without an exact knowledge of characteristics of the diseases liable to cause a disease within a joint. We should not, however, be content to decide any case upon what we can find in the joint alone. As far as possible, the ætiological factor should be sought for; whether this irritant (chemical or micro-organic) arrived within the joint from a wound, from the neighboring tissues, or from foci at a distance.

In suppurative processes—osteomyelitis, tuberculosis, and syphilis—the joint invasion takes place from the neighboring tissues by a process similar to the original focus, either by means of the lymphatics directly causing an acute or chronic inflammation, or the focus itself advances and ruptures, causing generally an acute invasion.

More frequently, however, the irritant involves the joint by means of the blood-vessels.

This is the case in acute rheumatism, gout, syphilis, tuberculosis, and metastatic inflammations, the result of the infectious diseases. Possibly this is the case in polyarticular arthritis deformans and many chronic and rheumatic arthrites.

Moreover, the irritant may exist in the blood only occasionally, and then involve the joint. Such is probably the case in tuberculosis, metastatic (gonorrhœal) synovitis, and some chronic rheumatic synovitides.

In just these cases the focus is to be found in the suppurative processes in the skin, the subcutaneous tissue, the bones, and mucous membranes, especially in the tonsils, pharynx, and nose, in the lungs, the intestines, and the genital and urinary organs.

Such a method of infection is thought to be common and is to be considered in every case. It is more than probable that this is the case when we consider how the anatomical structure of the spongiosa favors the slowing of the current of blood and accumulation of an inflammatory irritant within the ends of the bones as well as the anatomy of the synovialis and the relation to the joint cavity of its lymphatics. When a joint is alone involved, either the process is a simple disturbance of nutrition without infection, or the infection takes place from distant parts by means of slight injuries to the spongiosa or the synovialis, in which either an extravasation of blood or a thrombus in the vessels admits the infection and produces an inflammation of greater or less severity, depending upon the amount and intensity of the agent.

In this manner new diseases may be added to old ones. Such may be the case in the tubercular involvement of previous simple synovitis, metastatic and so-called rheumatic arthritis, as well as in the arthritis deformans the outgrowth of simple or rheumatic synovitis. How heat and cold act in producing disturbances of nutrition and inflammatory changes we do not know. It is probable, however, that they cause disturbances in the walls of the vessels, in the circulation of the blood, or in the cellular elements in the tissues, favoring the collection or escape of the irritant not only in the neighborhood of the joint, but also in the joint itself.

Nor should our investigations be confined to these methods alone. We are to examine in all cases to see what diseased conditions of the nervous system are present to prepare a point of diminished resistance to disturbances of nutrition or possibly secondary infections. Wherever we find any similarity to neurogenic joints, we should institute a careful examination for the early stages of locomotor ataxia, syringomyelia, compression of the cord, etc.

As the subsequent course of any disease within a joint depends so much upon this condition, it is highly important to recognize it in its earliest stage, both for prognosis and for treatment.

It is only by understanding specifically the point of origin, the condition within the joint, and the ætiology, that we are able to act rationally in our prognosis or methods of treatment.

The first form which to me seems of importance is the chronic serous synovitis. Under the chronic serous synovitis we include a number of varieties depending upon the changes within the synovialis, yet all these varieties are characterized by the fact that they are local disturbances of nutrition occasioned by a trauma, and appearing at first either as an acute or chronic process.

Depending upon the predominating changes in the synovialis and the chronicity of the process, it appears as a hydrops articulorum chronicus (chronic serous synovitis), a synovitis papillaris, a synovitis prolifera simplex, synovitis cartilaginea, and synovitis lipomatosa (lipoma arborescens articulationis).

The symptoms likewise vary with the character of the changes in the synovialis, whereas in the hydrops articulorum chronicus the characteristic is the large quantity of fluid, the herniæ of the synovialis, and the want of all restriction to motion within the joint; in the synovitis papillaris, cartilaginea, and lipomatosa these symptoms are not marked nor have they any diagnostic value. Though there may be a quantity of fluid within the joint, it is small in amount, except during exacerbations as the result of overuse or injury. The important changes are seen on the examination of the synovialis, and the symptoms diagnostic of any of these varieties are dependent upon this condition within the synovialis alone. We may thus have a joint disease which simulates in the exudation and in its sudden attack the synovitis of scurvy, morbus maculosus, and hæmophilia; in the quantity of fluid and in the character of the synovialis, a deforming or neurogenic arthritis, a syphilitic or tubercular hydrops. The presence of foreign bodies within the joint—blood, fibrin, fat, or cartilage—whether movable or free within the joint, or pedunculated, gives at times a variety of symptoms with which we are familiar under the term of foreign body within the knee joint.

The character of the fluid within the joint is one in which we find a few white blood cells, portions of tufts which have been separated from the synovialis, and red blood cells following manipulation or use of the limb. Fibrinous flakes of varying size and shape (rice bodies) are frequently seen, and exceptionally a fibrinous deposit is present to such an extent as to fill completely the cavity as a mold. The fluid is rarely under great pressure within the joint, nor are the ligaments stretched or loosened so that the joint becomes flaccid. The bones are never involved, although here and there upon the cartilage small eroded surfaces or spots of chondritis pannosa may be present. The joints most frequently involved are the knee, elbow, foot, and hand.

It is to be distinguished from the varieties of disease above mentioned in the first place; secondly, we are to determine as far as possible the changes in the synovialis, for upon these changes will depend our treatment and ability to cure with or without ankylosis. It is a variety most frequently mistaken for tubercular and syphilitic hydrops, for commencing arthritis deformans, and a foreign body in the joint.

A second variety of importance for diagnosis is the metastatic variety—a variety which, so far as my experience goes, is very frequently overlooked.

In the so-called infectious diseases arthrites are not uncommonly seen. In measles, scarlet fever, small-pox, cerebro-spinal meningitis (epidemic), pneumonia, typhus, dysentery, erysipelas, pertussis, epidemic parotitis, acute infectious osteomyelitis, puerperal fever, pyæmia, septicæmia, gonorrhœa, catheterismus, chronic cystitis, glanders, and malarial disease the joints may be involved as a serous, sero-purulent, or purulent arthritis. Rarely as a diphtheritic process with small hæmorrhages they occur in puerperal fever, acute infectious osteomyelitis, erysipelas, pyæmia, septicæmia, and glanders. In addition to these, in variola, cerebro-spinal meningitis, suppurative parotitis, and scarlet fever it is seen as a purulent arthritis. In other diseases and in milder infections in the above it appears as a serous or sero-purulent arthritis. These varieties depend upon degrees of infection or upon mixed infections. In the serous exudates the specific micro-organisms are frequent, but are always present with other varieties, whereas in the purulent they are scarcer or are not present at all. They are characterized by the fact that they are multi-articular and occur during the existence of the disease.

In measles, cerebro-spinal meningitis, pneumonia, parotitis, and puerperal fever they generally occur shortly after the beginning of the disease; in catheterismus, within a few hours; in scarlet fever, in the period of desquamation; in variola, in the period of suppuration; in diphtheria, gonorrhœa, and dysentery, toward the end of the disease.

In the period of convalescence these arthrites are generally monarticular and serous or sero-purulent.

When serous, they remain a few days and then recede quickly or require a longer time to disappear. They not uncommonly remain, however, as a chronic inflammation in one or more joints. In gonorrhœa this is especially the case. The arthritis continues for weeks with moderate pain, or resolves completely to return again with moderate pain and swelling. There is thus in time produced a thickening of the synovialis, the formation of enlarged tufts and villi, with a moderate amount of fluid in the joint, and a condition of so-called chronic relapsing hydrops. It is indeed the characteristic of these metastatic inflammations *to relapse*, and is an important factor in their diagnosis. Such synovitides I have seen in gonorrhœa, where the disease remained as a multi-articular synovitis.

A synovitis papillaris and cartilaginea in one knee, a chronic serous synovitis in the other knee, a synovitis cicatricans in one wrist and ankle, an acute exacerbation upon a chronic serous synovitis in the other ankle, existed in one patient.

It was the outgrowth of a gonorrhœa acquired three years previously and had been present since that time. Each exacerbation of his chronic gonorrhœa was generally attended with some joint complication.

In cases where the disease is catarrhal they lead to fibrous or bony ankylosis, or resolve completely. In the purulent form, however, though recovery may occur, death generally results.

Sometimes without operation they become chronic, existing as a purulent arthritis with necrosis of the articular extremities of the bones, or become secondarily tubercular. In the period of convalescence the joint most frequently involved is the hip, and the diseases in which this occurs are generally typhoid, scarlet fever, pneumonia, and acute infectious osteomyelitis. Spontaneous luxation is not uncommon, even where no suppuration was present. I have seen cases of this kind in typhoid fever, measles, and infectious osteomyelitis.

Even when such joints have not become tubercular they are often considered so because of their chronicity alone, and, no matter how treated, whether by operation or mechanically, are held up to us as examples of the advantages of one or the other methods of treatment in this disease, when the actual condition is entirely of another character.

Such errors in diagnosis I have not infrequently seen in the acute multiple epiphyseal osteomyelitis. These cases have been indefinitely treated as acute rheumatism in their first attack, and in their chronic form considered as rheumatism or tuberculosis. Hitherto we have paid attention mostly to the osteomyelitis of the shafts of bones, yet greater attention should be given to that of the epiphyses, which appears under the form of an arthritis (multi-articular or uni-articular), simulating in the early stage an acute multi-articular rheumatism and in the later stages varying according to the character of the arthritis—*i. e.*, the degree of the osteomyelitis and character of the synovialis (serous, catarrhal, or purulent). This disease is that variety of rheumatism, if I may so term it, in which antirrheumatic remedies have no effect and in which fistulæ, with or without necrosis or simple catarrhal or purulent arthritis, succeed the acute attack. How many of the good results in tuberculosis are due to this error in diagnosis I am unable to say. I do not think, however, from my experience in operations upon the joints where one is able to see clearly the lesion, that all of our diagnoses of tubercular joints are by any means correct. Our errors, I am sure, give more cures for tuberculosis than properly belong to it.

A third variety is that to which we give the name of chronic rheumatic arthritis, which includes several diseases differing in their cause and course, but having very similar anatomico-pathological changes. These consist in an infiltration and thickening of the capsule, which becomes cicatricial, while the bones and cartilages are only superficially destroyed without hypertrophic changes, and in which the tendency of the opposing surface is to unite. Yet these cases differ so much in their course that it is wrong to class them under one head.

According to many, they arise from acute rheumatism or exist as primary chronic inflammations, an uncertainty which seems to exist from the fact that marked rheumatism is not infrequently present where only slight fever exists with a gradual but steady involvement of the joint, or in which the disease begins as endocarditis, to which the joint complications are subsequently added.

Yet others look upon these joints as rheumatic only when preceded by a distinct and veritable acute rheumatism, with its relapses and complications.

I do not wish to speak of the easily recognized varieties of chronic rheumatism, either the infectious variety, arthritis rheumatica chronica ankylopoietica, or the chronic serous synovitis seen in the outgrowth of previous attacks of rheumatism, as their characteristics are marked by constant relapses, gradual and increasing ankylosis, paresis of the muscles about the joint, the subacute exacerbations with œdema and redness, and the multi-articular character without fever; or the rarer variety of monarticular chronic rheumatism.

Nor has it seemed to me that the malum senile, arthritis nodosa, or the multi-articular variety of arthritis deformans has offered any great chances for difficulty in diagnosis. As a monarticular disease, however, arthritis deformans certainly demands attention, and is not infrequently overlooked.

Its ætiological factor is not known. Although injuries to the joint in man and the injection of weak inflammatory products into the joints of animals have produced somewhat similar conditions—though cases have been reported as following synovitis serosa and gonorrhoica—still, we are as much in doubt about this as a factor as we are of its trophoneurotic origin.

The course of the disease, however, and the objective symptoms give us sufficient data upon which to base a diagnosis.

Existing in the younger class of people, its course is much more rapid than the multi articular variety in the older people. It not infrequently follows contusions, distortions, and intra-articular fractures, though it may occur spontaneously—*i. e.*, to all appearances. Commencing with moderate pain, crepitation, and stiffness in the joint, there are gradually added neuralgic pains in the limb of some severity. Acute exacerbations, with an increase of fluid within the joint, occur from time to time, persisting for two to five days and slowly receding.

Yet, in all this process there is no ankylosis, no fever, nor suppuration. In the examination of the joint, we find a thickening of the capsule, the formation of tufts within the joint in the forms of the fibroma papillare (Virchow), lipoma arborescens, or the cartilaginous plates. On the articular ends of the bones we find an osteitis deformans, the result of which is to produce a softening and gradual disappearance of the lower portion of the articular cartilage, with a sclerosis of its superficial layers as well as the grooves and fissures within the joint at the point of contact of the articular ends. On the borders of the cartilage the advance of the osteitis is not impeded, and irregular outgrowths occur, producing such changes in the articular cartilages, by elevating and disturbing their natural position, as to lead to subluxations or imperfections in their full and free use. This process begins beneath the periosteum and gradually extends toward the medulla. It is similar in its course to an osteitis rarificans—*i. e.*, in the formation of Howship's lacunæ and the Haversian spaces. As in all diseases of bone, there is, together with this process, a formation of new bone both in the medulla and beneath the periosteum. This newly formed bone remains without the salts of lime for a long time, is softer than usual, and yields readily to the pressure exerted upon it. The process runs its course with calcification and sclerosis, so that in older portions, instead of a soft and yielding structure, a firm and resisting deposit of new bone is formed.

The failure in the deposits of the salts of lime in the earlier stages gives us a means of explaining why such great deformities occur within so short a time (one year) in such joints as the hip, the knee, and the elbow.

As the disease runs its course in sclerosis and calcification, it justifies us in a resection, when this is necessary either from the deformity or the severe pain.

The process is practically a disease of the joint, yet the joint symptoms are only a secondary process to a disease in the articular ends of the bone—an osteitis deformans. The objective signs are sufficiently diagnostic, yet they are not given their full weight in the earlier stages of the disease.

It is a very important variety; it is easy of diagnosis in the later stages, but in the earlier stages it offers many difficulties when contrasted with other diseases, as osteochondritis dissecans and traumatic arthritis.

A fourth variety, in which I think many errors in diagnosis are made. is the arthropathies occurring in syphilis. It is not so rarely seen that in the acquired disease such a process is treated for acute rheumatism, and in the hereditary form is considered and treated as a tubercular process. I have seen just such cases, where the treatment was carried so far as resection, or in which an antisyphilitic treatment was required to cure a persistent rheumatism.

In this disease we should consider the arthropathies both in the acquired and hereditary forms.

In the secondary period we have to do mostly with a subacute or chronic serous exudation within several joints. They are similar to metastatic arthritis, with which they may be classed. Existing as a multi-articular or uni-articular process with some fever, pain, and swelling, with or without a serous exudation within the joints, especially if the onset is sudden and an eruption is not marked, or not observed, or inquired into, it is apt to be looked upon as rheumatic, and so treated. More frequent than this variety, however, is that occurring in the tertiary stage. It is commonly uni-articular, subacute, or chronic in character, and is attended with a moderate exudation within the joint. The capsule is slightly thickened, with well-marked, papilliform, thick tufts upon the synovialis. The changes in the cartilage are peculiar, and consist of a transformation of the cartilage over circumscribed areas into a dense cicatricial tissue, somewhat depressed beneath the level of the surrounding cartilage and covered and bordered by small tufts. No new cartilage is here produced. It is simply replaced by a dense connective tissue due to subchondral gummata.

These cartilage defects and a papillary synovitis are peculiar to the disease and occur without, but generally with, a gumma in the bursæ, ligaments, or beneath the periosteum near the epiphysis, or as an accompaniment of a syphilitic osteomyelitis of the diaphysis which has advanced toward the epiphysis. The general result of such a process is a simple hydrops, yet suppuration may occur either as the result of an accidental infection or from the gradual or rapid breaking down of a gumma which has already involved the joint. As a sero-purulent or catarrhal exudation it follows subchondral gummata, whereas in the gummata in the bones, ligaments, or bursæ, fistulæ are slowly formed, and the suppuration is then added.

More interesting and difficult of diagnosis, however, are those cases of this disease seen in childhood and youth, the result of "syphilis héréditaire tardive." Here we are to observe particularly those symptoms which are characteristic in a general way.

The peculiar multiplicity and symmetry seen in these arthritides, the age (three to twenty-eight, five to fifteen), the bones involved—tibia, ulna, radius, humerus, and femur—their point of involvement, mostly the diaphysis, not infrequently the epiphysis, subacute or chronic osteo-periostitis ending in hyperostosis, "douleurs ostéocopes," and the syphilitic habitus—are all symptoms which should, in any case, lead us to suspect strongly the character of the lesion. A form most difficult of diagnosis is that in which there exists within a joint or joints a subacute serous inflammation, with moderate exudation, some swelling of the capsule, pain and redness in the skin, but without any observable changes in the bone. There are present within these joints changes in the cartilage characteristic of syphilis, foci of necrosis, or sharply bordered defects, while the synovialis presents only an inflammatory injection. The epiphyseal cartilage is in no way involved.

This variety I have seen in only one instance. The diagnosis must be made by exclusion, by the multiplicity and symmetry, the subacute course, and the joints involved. In this particular instance the child, three years old, was cured in about two months with antisyphilitic treatment, and in two years returned with other manifestations of hereditary syphilis.

More common and much easier of diagnosis are those cases occurring as a complication of a gumma in the soft parts about the joint or axis, seen in a periostitis and osteomyelitis of a neighboring long bone. Here the presence of the gumma or the osteomyelitis and periostitis, with thickening of the capsule and the papillary growth in the synovialis, makes the diagnosis comparatively easy. Such cases have been frequently seen during the last three years at the Roosevelt Hospital. A third variety in hereditary syphilis, and one which I think is not so *very* uncommon, is that in which an arthritis follows an epiphyseal periostitis and perichondritis by simple extension. They appear with a relatively rapid swelling of the epiphyseal periosteum, with a gradual serous exudation into the joint. As the process advances, the capsule is thickened and papillary growths upon the synovialis are added. This process may be attended with a puriform exudation into the joint, when such a focus breaks into the joint, or a complete separation of the epiphysis may take place. A relatively rapid circumferential swelling of the epiphysis, attended with an exudation within the joint, are the characteristic signs. The condition produced is somewhat similar to rhachitis but differs from it in its rapidity and joint complication.

The joints most frequently involved in these varietie are the knee, the elbow, the metatarsal, metacarpal, and digital joints. These varieties are of great importance in diagnosis, and their treatment is so evident and brillian that to make a mistake seems almost reprehensible. W will all of us make such mistakes, but we should attemp at least in all cases, especially in children, where the differential diagnosis between syphilis and tuberculosis may be somewhat uncertain, to give the child the benefit of a syphilitic course of treatment if any well-founded suspicions a to the character of the process exist. It is only in the suppurating syphilitic processes that any operative measure are necessary. Even here it is to be made subordinate to internal or local antisyphilitic remedies.

If I might be allowed to so express myself, Mr. President, I should say that, though not frequent, some of my best results in suspected tubercular joints in children hav been cured in this way. I have seen, in all, four cases o this disease subjected to operative treatment. Two of them were gummatous arthritis of the elbow; resection, return in both, cured by internal treatment alone. The other two cases had other joints involved. In one, a knee-joint, gummatous arthritis from subperiosteal gumma; resection return; cured by internal medication. The other case was one of irrigation and drainage of the knee. Return, cured by internal medication.

It should be our duty to recognize this variety of joint disease when it is present. In this variety, more than in any other, can a good functional result be obtained by internal local medication.

There is still another class of cases in which the chances of error in diagnosis are great. I refer particularly to the neurogenic arthritis occurring during the course of locomotor ataxia, compression of the cord, traumatic lateral spinal paralysis, acute myelitis, multiple sclerosis, syringomyelia, and injury to peripheral nerves.

It is not our province here to discuss whether the trophic centers are involved, whether nutritive anomalies in the bones exist, rendering them more fragile, or whether the bones maintain their normal density and compactness. There can be no doubt about the fact that neuropathic individuals are subject to all possible forms of arthritis as every one is. Yet the course of their arthrites are so modified by the disturbance in innervation that it is of practical value to consider them as a separate variety.

The analgesia and the increased vulnerability of the tissues in neuropathic individuals prepare a course distinctive for this class of cases. It is not necessary that an abnormal fragility of the ends of the bones be considered as a prerequisite condition. All that one requires is an intra-articular fracture and a continued use of the joint to develop a condition similar, but not so rapid as when it exists in locomotor ataxia. When, however, there is added a fragility, analgesia and ataxia, or analgesia alone, we may explain satisfactorily the course and the varieties of these joint complications.

They are presented to us under the picture of an arthritis traumatica, deformans, or neurogenica with its spontaneous fractures of the articular ends of the bones, and the excessive production of callus both by the periosteum and soft parts about the joint.

As a traumatic or deforming arthritis, it runs so latent a course, on account of the analgesia, that it is not recognized by the patient until crepitation, dislocation, or excessive exudation into the joint and soft parts in the neighborhood give evidence of it.

This is generally considered as the beginning of the process. It is spoken of as sudden in its onset, yet it has been present for a long time and remained unrecognized by the patient, on account of the analgesia. Should the injuries to the joint be slight and rest and care are given it, the course is benign, whereas the degree of injury, due to the analgesia, ataxia, and fragility of the bones, or any combination of them, stamp the course as malignant—*i. e.*, the rapid destruction of the articular ends of the bones, the tearing off of the ligaments, and the excessive production of callus extending to the soft parts, especially insertions of the tendons and muscles about the joint.

In general, however, the first symptom seen is an acute or subacute swelling of the joint and the neighboring tissues without a cause, and often during the night, without temperature elevation, redness of the skin, or constitutional disturbance. Such a condition may remain days, weeks, or months, and resolve in part; yet there remains a well-marked deformity in the joint with abnormal mobility. The articular cartilages are destroyed, the epiphyseal extremities of the bones become polished, worn away, or destroyed, and replaced by irregular bony masses. Crepitation, foreign bodies within the joint (bony, cartilaginous, and fibrinous coagula), a papillary and cartilaginous synovitis with the formation of extracapsular callus by the periosteum, tendons, and muscles, are the characteristic symptoms. These, when combined with the early symptoms of locomotor ataxia, syringomyelia, etc., render our diagnosis, prognosis, and treatment a certain one.

The deleterious influence exerted by these nervous disturbances upon the course of syphilis, tuberculosis, and purulent infections in joints is to be always considered in any prognosis.

It has been my intention in this paper to bring before the society nothing new—simply a statement of those diseases of the joints I find most difficult of diagnosis.

A thorough knowledge of the diseases causing joint inflammations and an accurate examination of the local condition is our only guide to treatment and prognosis. It is only when we make the diagnosis accurately that we can tell our patients of their curability or incurability. When this is accomplished, the means of cure, if any exist, are few and sufficient.

THE SIMULTANEOUS OCCURRENCE OF DISEASE OF THE HIP AND KNEE JOINTS IN THE SAME LIMB.*

By REGINALD H. SAYRE, M. D.

The simultaneous occurrence of disease in the hip and knee joints of the same limb is so rare that I have thought it worth while to report such a case to this Section, and to describe a new splint for the treatment of this complication. As the splint can be best described in connection with the case, I will briefly outline the latter:

R. McC., aged six years, had scarlet fever when two years old, followed by suppurating otitis on both sides, suppurating glands in the neck, and an ischiorectal abscess. About eight or nine months after the fever he had a very bad fall, soon after which he complained of severe pain in the right knee, which was then fastened in a felt splint and became apparently well after some time. Just as the knee became well he fell out of a carriage, and soon after had great pain in the right hip. He was then put to bed with extension applied to the right limb by means of a weight and pulley, and subsequently wore a long traction hip splint while walking for about a year, at the end of which time he seemed to be cured.

Some months after this the left knee began to swell and be painful, followed in turn by the right knee and left shoulder. These joints were wrapped in cotton and antirrheumatic remedies given, the pain and swelling subsiding after a while, leaving the left shoulder, however, almost ankylosed.

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* Read at the Tenth International Medical Congress, Berlin, 1890.

In October, 1888, the right knee began once more to flex and give pain, and the right thigh became flexed on the abdomen, and at that time the child first came under my observation. He was pale and badly nourished. One ear still continued to discharge. The right knee was hot, swollen, and tender to pressure, and flexed at an angle of forty degrees. The right hip joint was flexed at an angle of forty-five degrees, and the adductor muscles were very rigid. When slight traction was applied to the thigh, limited movement of the hip joint did not cause pain.

He was put to bed and traction made on the diseased limb, as shown in Fig. 1.

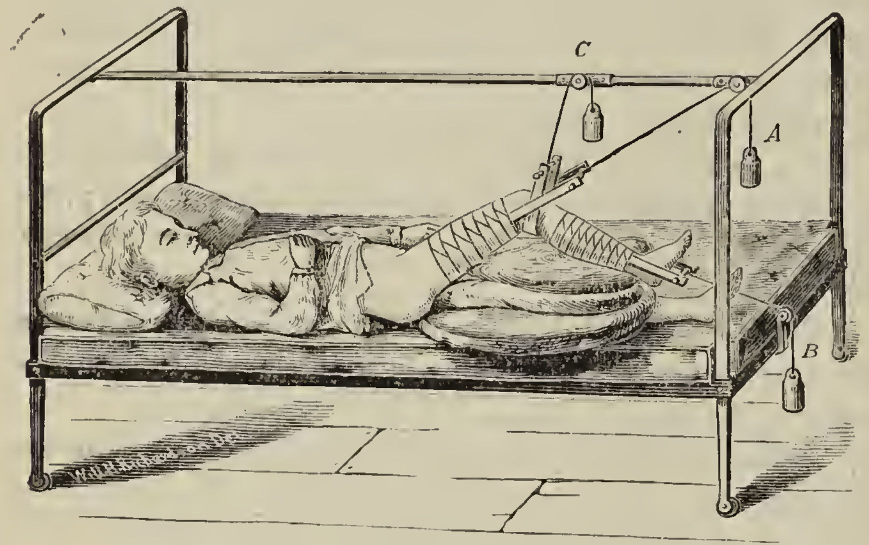

FIG. 1.

Adhesive plaster was fastened to the thigh, and by means of a weight and pulley (A) traction was made on the thigh in the direction of the deformity, the body being fastened flat to the bed. By means of other adhesive plasters fastened to the calf, a second weight and pulley (B) made traction on the knee joint in the long axis of the tibia, while a third weight and pulley (C), attached to a band passing behind the leg at the head of the tibia, made traction at right angles to the long axis of the tibia, thus overcoming the tendency to subluxation of the knee. After six weeks of this treatment the deformity was sufficiently reduced to permit the application of the splint, which I shall now describe, and which is a combination of the splints devised by my father many years ago for the treatment of chronic disease of the hip and knee joints when occurring separately.

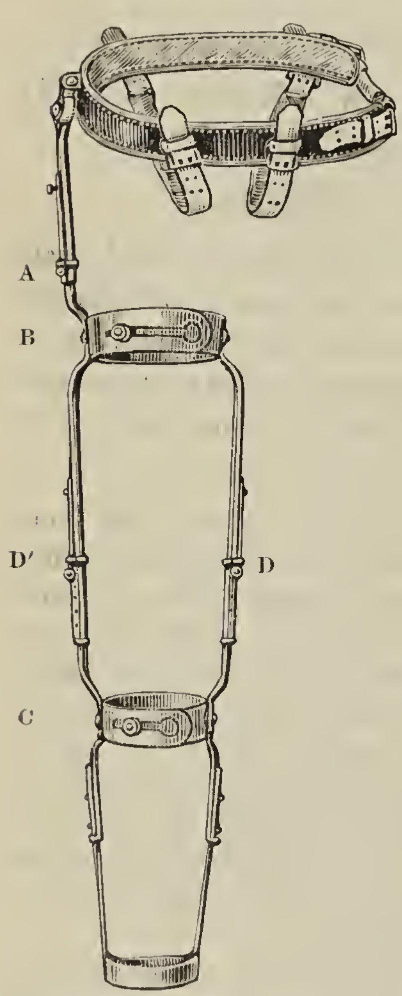

FIG. 2.

This instrument (see Fig. 2) consists of a pelvic belt with two perineal straps, which belt is fastened by means of a platform joint to a rod running down the limb to the ground. In the platform joint is a screw for making abduction of the limb if necessary. Below this is a ratchet (A) for elongating the rod. Attached to the outside rod are two steel collars (B and C), which encircle the thigh and calf, and which are connected together by a second rod running up the inside of the leg. Both inside and outside rods are furnished with ratchets (D and D′), to permit them to be lengthened. These side rods are continued below the calf collar to the ground, where they join together in a wooden shod foot-piece. To apply the splint, strips of heavy adhesive plaster, an inch wide and long enough to extend from the top of the patella to the groin, are put longitudinally all around the thigh (see Fig. 3) and tightly secured by a bandage, which is carried as high as the point where the collar encircles the thigh. Similar strips of adhesive plaster, long enough to reach from the head of the fibula to the malleolus, should then be applied all around the calf, the bandage being carried from the knee down to the point where the lower collar encircles the calf (see Fig. 4).

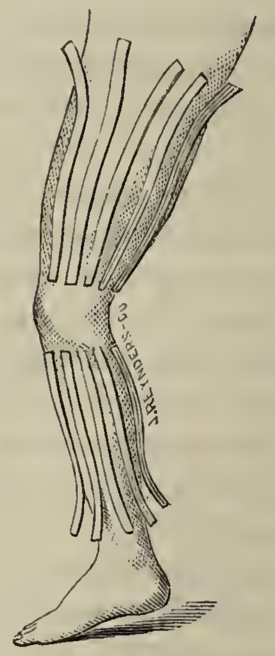

FIG. 3.

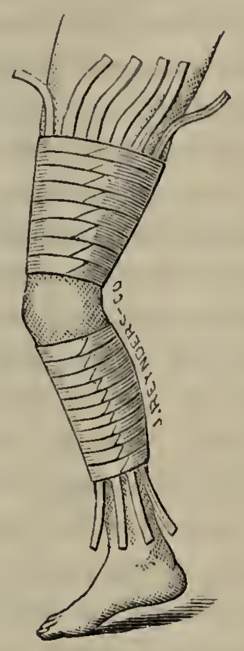

FIG. 4.

The pelvic belt is now put around the pelvis and the collars brought moderately tight about the thigh and calf, and fastened, care being taken to place a pad on each side of the crest of the tibia to prevent chafing by the encircling collar. The adhesive plasters are now reversed over the collars, and held in place by another strip of adhesive plaster drawn tightly around the collars. A roller bandage is now applied to retain the ends of the reversed adhesive plasters in position. The thigh and calf being now securely fastened to the collars, traction can be applied to the knee by means of the ratchets (D, D′), the amount of traction being limited by the patient's sensations, stopping at the point that gives the greatest relief.

The knee must now be bound with strips of adhesive plaster to prevent swelling, and a tight roller applied over all. A bandage is then passed about the thigh, going over the thigh and under the side bars of the instrument to press the femur backward, and a second bandage is passed around the leg, going under the calf and over the side bars of the instrument to force the tibia forward, thus taking the place of the pulley C (Fig. 1). A bandage is applied to the foot to prevent swelling.

The knee having been adjusted, the pelvic belt is then drawn tight, and the perineal straps are drawn sufficiently tight to bring the pelvis belt below the anterior superior spines of the ilium. By means of the ratchet A (Fig. 2), traction is made on the hip joint to the point of greatest comfort.

A shoe with high heel and sole is applied to the foot of the sound side to equalize the extra length caused by the projection of the splint below the foot of the lame side, the patient walking on the high shoe and the splint (see Fig. 5) and receiving the weight of his body on the perineal straps.

In the case under consideration the adhesive plasters have been changed four times since the splint was first applied in December, 1888—a period of about eighteen months. When removed last October the knee was much less tender and swollen than at first, but still sensitive to any movement.

When removed the next time, which was in June, 1890, the knee was straight and free from pain on movement, though evidently not thoroughly well. The hip had free movement and there was no muscular spasm.

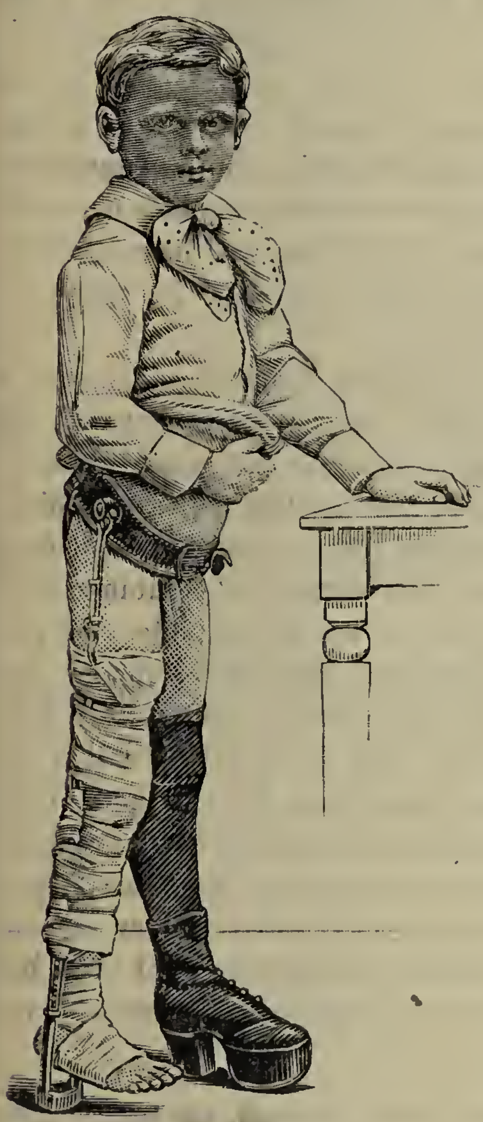

Fig. 5.

The photographs do not show the knee as straight as it should be, having been taken just after the last application of the splint, the boy having been without it for ten days just before this, during the time the splint was being repaired, and the skin becoming hard after exclusion from the air for eight months. I had bent the knee somewhat also, and the flexor muscles were rather slow to relax. When I removed the splint, the knee was straighter than shown in the picture, and is now once more becoming straight.

It may be asked why I allowed motion at the hip and not at the knee. In this case limited motion of the hip joint did not give pain, provided slight traction was made on the thigh, and I therefore thought the child might be allowed the additional comfort of movement at the hip without harm; and the result has so proved. If motion of any sort had given pain in the hip, I should have immobilized that joint also.

The extension of the splints by its various ratchets and the changing of the bandages must be altered from time to time as the improvement in the joint, the slipping of the adhesive plaster, or the comfort of the patient demand.

HYDRASTIS, VIBURNUM, AND PISCIDIA IN DISEASES OF THE FEMALE ORGANS OF GENERATION.*

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The great interest that has been excited by every acquisition to the Pharmacopœia of drugs that have a therapeutic action upon the female organs of generation proves conclusively that the profession at large ask for more than merely surgical gynæcology. While the surgical methods of treating diseases peculiar to females have attained to a high standard and in technique leave but little to be desired, the requisite skill is by no means sufficiently widespread, nor indeed of low enough cost that all suffering women may be relieved. While our post-graduate schools are sowing broadcast the seeds of surgical gynæcology and imparting the results of their experience to physicians from all portions of this country, yet, nevertheless, there remains a large proportion of the medical profession who seek to relieve by methods other than operative. Further, it is notorious that a specialist seeks the shortest road to relief and is apt to ignore other, perhaps longer but certainly pleasanter and finally surer, methods of treatment. While I would not in the slightest degree belittle the brilliant surgical results of our foremost gynæcologists, yet I would submit that medical gynæcology has a very important place.

The past decennium has given us new drugs, new uses for drugs, and has firmly settled on a physiological basis the indications for the employment of certain drugs. In January, 1887, I read before the Alumni Association of the Woman's Hospital of New York a paper entitled Hydrastis Canadensis in Uterine Hæmorrhage, which was published in the *New York Medical Journal* under date of February 19, 1887. In this paper I presented the results of the employment of hydrastis in forty-three cases. The chief indication for its use is uterine hyperæmia, resulting in menorrhagia and metrorrhagia. Secondary results, such as endometritis fungosa, displacements, and permanent engorgements of the uterus, were naturally relieved by its use. The publication of this paper was followed by a greatly increased demand for the drug, its use by a large number of practitioners, and it has become one of the staple drugs of the pharmacy. When the diagnosis is well established and the drug is administered in accordance with the indications, success is as probable as with any other drug whose physiological action is well established. During my earlier studies certain disadvantages were found; menstruation was frequently suppressed, at times pains would be produced, although never the crampy pains of ergot, and all cases in which the amount of flow was below the normal were not relieved. Some of these were errors in administration; others were due to the peculiarities of the drug itself. Although in a chlorotic girl it might be well to produce cessation of the menses for a time, yet the mental disturbance of emansio mensium is generally unadvisable. The best results were obtained in cases of chronic hæmorrhage due to inflammation of uterine tissue, circumuterine inflammations, and also in displacements due to engorgement.

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* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, November 29, 1890.

The abominable taste of the fluid extract of hydrastis was never concealed, and it was only possible to continue its administration when the results obtained were so excellent as to make its exhibition a necessity. Earlier experiments with the alkaloid hydrastine showed that the alkaloid did not fully represent the drug. In the present year the observations of Falk with an oxidation product of hydrastine, which is known as hydrastinine, have shown that, so far as menorrhagia, metrorrhagia, congestive dysmenorrhœa, and endometritis are concerned, it seems to act as well as the fluid extract. The dose is three quarters of a grain hypodermically. Its present great objection is the price.

Viburnum, since its introduction to the profession by Jenks, nearly fifteen years ago, has held its own as a remedy for dysmenorrhœa against many drugs then lauded to the skies, but now long forgotten. It will certainly relieve dysmenorrhœa if the testimony of thousands of intelligent physicians is worth anything. In the nervous phenomena of the climacteric it will diminish reflex activity, acting in precisely the same lines as the bromides, but without the great general depression of their long-continued use. Alone it is not sufficiently sedative to relieve pain, as is shown by the following case, when more markedly antispasmodic remedies—such as hyoscyamus, cannabis indica, camphor, conium, and avena sativa—must be employed:

Miss S. M., aged eighteen, first seen on March 26, 1890. Duration of illness, four years. Complains of poor appetite, but the bowels are regular; the tongue is pale and flabby; anæmic murmur in neck. Menstruation at thirteen, always irregular, every four to seven weeks, lasting one or two days and scanty. Has severe pains in groins and back for twenty-four to thirty-six hours before flow; pain is constant and sharp, alternating with cramps and dull pains. Has much neuralgic headache during periods. Has passed clots on several occasions, but without relief of pain. At times has fainted. Tenderness over lower abdomen quite marked. Diagnosis: congenital anteflexion, undeveloped uterus. Ordered fluid extract of viburnum, thirty drops every two hours during attack; concentrated tincture of avena sativa, twenty drops in hot water during crampy pains every twenty minutes until three doses are taken. Hot-water bag to abdomen; turpentine enemata. Hot sitz bath during day preceding flow. Bed during menstruation.

April 28th.—Flow greater in amount and pain much less. Viburnum alone does not relieve pain so much as when avena sativa is given with it.

June 12th.—Last period was a great improvement upon the preceding, due probably to the free administration of iron in the interval. Also did not suffer from neuralgic headaches. Is going into the country.

September 22d.—Last two periods have been almost entirely free from pain. Has taken iron faithfully since last report.

That viburnum is markedly sedative, so far as the uterus is concerned, is shown that, if used after labor, it is one of the best remedies for post-partum pains, provided that they are not of mechanical origin. Deficient menstruation is not so great a bar to the employment of viburnum as it is to that of hydrastis. On the other hand, viburnum has a far more beneficial influence upon the heart and upon the general nutrition than hydrastis has.

Piscidia as a hypnotic attracted much attention about ten years ago. My own experiments were unsatisfactory, and other drugs have supplanted it as a hypnotic. Yet Ott's investigations in the physiological laboratory show that piscidia has a well-defined action, and, in connection with other drugs, undoubtedly has its use. Ott found (1) that piscidia was narcotic to frogs, rabbits, and men; (2) did not affect the irritability of the motor nerves; (3) did not attack the peripheral ends of the sensory nerves; (4) reduced reflex action by a stimulant action on the centers of Setchenow; (5) produced a tetanoid state by a stimulant action on the spinal cord, and not by a paralysis of Setchenow's centers; (6) dilated the pupil, which dilatation passed into a state of contraction upon the supervention of asphyxia; (7) was a salivator; (8) increased the secretion of the skin; (9) reduced the frequency of the pulse; (10) and increased arterial tension by stimulation of the monarchical vaso-motor center; (11) that this increase was soon succeeded by a fall, due to weakening of the heart itself. Piscidia, in medicinal doses, produces muscular reaction, lowered sensibility, increased action of the heart, and increased arterial tension through stimulation of the vaso-motor center. Through its action on the muscular system it can supplement viburnum and neutralize hydrastis in spasmodic dysmenorrhœa. In all painful diseases of the uterus and annexæ it is of service through its power of lowering sensibility.

For the last year I have been experimenting with a preparation known as liquor sedans, manufactured by Parke, Davis, & Co., which has the following formula: Hydrastis, 60 grains (represented by the white alkaloid); viburnum, 60 grains; piscidia, 30 grains, to each fluid ounce of the preparation. The drugs are combined with aromatics so that the mixture is not unpalatable, and presumably these additions have some therapeutic effect. The cases in which I have made use of this formula have been those in which an operation was not possible, either because the patient's consent could not be obtained, or the patient could not be kept under control. Nor have I inserted cases in which local treatment was the most important feature. While all of these cases were under observation and reported from time to time, yet none of them had regular local treatment, because, for various reasons, it was not possible.

Case I.—Mrs. D. G., thirty-five years old, has been sick for the last six years previous to the time when she was first seen in 1886. She complains of general debility, failure of health dating back to childbirth, with times of improvement. Thin, anæmic, of sanguino-bilious temperament. She has poor appetite, sometimes an accumulation of gas, discomfort after eating, pain in stomach and bowels, distention, rarely nausea, flatulence, constipation, suffers from hæmorrhoids, pain about heart, sometimes palpitation, occasionally faintness and shortness of breath without exertion. No cardiac or pulmonary physical signs. Sometimes has stoppage of urine for twelve hours; at times has frequent urination, every half hour, especially when tired; color of urine varies much. Has pain in loins.

The catamenia have always been accompanied by great pain during her entire menstrual life, profuse, lasting seven days, with cramps and clots, and much foul-smelling vaginal discharge. Has had one child, six years ago. Her pains occur five days before the flow appears, in back and sides, especially the left; worse on exertion. Has vertigo, neuralgia, sick headaches, chilly sensations. Great tenderness on percussion over eighth dorsal vertebra. Interrupted sleep. On examination, the vesico-vaginal septum is found to be hard, the cervix, with laceration to the right, soft, except at site of tear, which is hard and sensitive. Some cervical cysts, tenderness on the left side of the uterus, which is in good position. Some thickening in utero-sacral ligaments, but not especially tender. Laceration of perinæum with sensitiveness on examination. Urethral opening reddened. Some carunculæ, very sensitive. Diagnosis: subinvolution of uterus, anteversion, hypertrophy of urethral mucous membrane. During the next six months she improved greatly under a small amount of local treatment, spending her summer in the country. Excessive flow was controlled by the fluid extract of hydrastis, and her general condition was improved by diet, tonics, and general medication. After about three years of comparative comfort she reported on January 19, 1890, that her symptoms had recently become much aggravated and that she was in nearly the same condition as in 1886. Liquor sedans, one drachm in water, three times daily for two months, was ordered.

May 12th.—Has had much less pain in back and left side since last report. Uterine leucorrhœa much improved and vaginal discharge much less; the amount of menstrual flow has diminished about one half. Feels much improved both in general health and in regard to urinary symptoms.

October 1st.—The gain has been permanent; although not well, does not think that medication is necessary.

Case II.—Miss S. A., aged twenty-two, was first seen on July 13, 1889. Has been sick for the last six years, complaining of fits. General surroundings good. Digestion perfect, excepting occasional constipation due to improper food; rarely suffers from palpitation of the heart; occasionally frequent urination, especially at time of periods. Catamenia at fifteen, regular, with normal flow. Preceding are pains in back and groins. During flow has fits, falls, sometimes localized convulsions; no frothing at mouth or biting of tongue; is sleepy after attacks, during which she loses consciousness. Has never injured herself during fits. Has no warning of impending attack; eyes are always closed. At times has had opisthotonos, but never general rigidity or general convulsions. Attacks have grown worse during the last two years, and occasionally has fits of lesser severity in intermenstrual period; is always of good temper and not hysterical. Diagnosis: anteflexion, ovarian hyperæmia, hystero-epilepsy. Ordered to take liquor sedans for one week before and during menstrual flow, one drachm three times daily; to use plain food, avoid all fried food, tea, coffee, cake, candy; use oatmeal and plenty of fresh fruit; avoid stimulants; to have hot-water douches.

September 30th.—Has had four attacks since last report. Ovarian sensitiveness less marked. Ordered to take liquor sedans constantly.

December 22d.—One marked and two slight attacks; anteflexion is persistent, but canal admits a probe easily. To take liquor sedans only during menstrual flow.

June 6, 1890.—To-day has had her first severe attack since last report. Has been menstruating with less pain than for two years. Ordered liquor sedans for two months.

September 25th.—Has had but one slight attack since last report; uses liquor sedans only during flow.

Case III.—Mrs. H. A. H., aged twenty-four years, had been ill for three months before she was first seen on May 17, 1889. The cause of her illness was overwork before complete recovery from parturition. She complains of poor appetite, constipation, pain on movement before the act, relieved by the passage. Rarely dizziness; sometimes palpitation of the heart. Slight cough, but no expectoration; no physical signs to be found in the chest. Frequent urination; color of urine varying; sometimes pain and smarting during the act; nothing abnormal found on chemical or microscopical examination. Menstruation regular every three weeks, lasting five days, profuse, followed by illy-smelling uterine and vaginal leucorrhœa. Has had one child, eighteen months old. Has also pain in the legs; feels as though "she would fall to pieces" on walking; pain on rising from a sitting position; headaches. Diagnosis: anteversion, purulent endometritis, exudation into left broad ligament, catarrhal urethritis, subinvolution of uterus. Ordered liquor sedans, one drachm four times daily; Fowler's solution with the bromides; full diet with full Emmet douche twice daily.

June 7th.—Much less uterine pain; induration of left broad ligament has diminished.

August 7th.—Has now no vaginal discharge; pain much lessened; uterus now nearly normal in size; can walk much better. Catamenial flow much lessened. Is now to use liquor sedans only during flow.

December 29th.—General health has much improved. Anteversion still remains, but, beyond some tension on the neck of the bladder, does not annoy the patient.

April 25, 1890.—Patient now considers herself much improved and uses liquor sedans only when flow exceeds the normal. Has no vesical symptoms. Has gained about fifteen pounds in weight.

September 26th.—Patient reports that she is well.

Case IV.—Mrs. C. W. O., aged thirty-five, was seen on January 6, 1890. Had been ill for three years. Her previous sicknesses had been catarrhal otitis media, resulting in deafness, and acute peritonitis. She complained of inappetence with marked constipation when enemata were not employed, faintness, dizziness, tinnitus, frequent urination when fatigued. Catamenia at fourteen, recurring every four or five weeks; generally scanty flow, which lasts three days. Of late, during last two years, has unexpected attacks of flooding, losing large amounts of blood, these attacks being only at or about the normal menstrual periods. Has much constant pain in back, dragging pains on standing or much walking. Some glairy discharge from the vagina. Traces origin of present attack to peritonitis following excessive tamponade, when she was confined to the bed for three weeks. Diagnosis: pelvic peritonitis, lateroflexion of uterus, induration of left broad ligament. Ordered Fowler's solution, to have liquor sedans, one drachm four times daily, during periods, nourishing diet, Emmet douche, bed during menstrual epoch.

March 20th.—Patient takes her medicine with considerable regularity, but as regards douche leaves much to be desired. The exudation in the broad ligament has diminished as well as the tenderness.

July 3d.—A fair amount of improvement in her general condition, with but little change in local state since last report.

October 15th.—Patient professes great benefit from remedy.

Case V.—Miss W. S., aged thirty-three; when first seen on September 3, 1889, complained that she had suffered for ten years from dysmenorrhœa. Always well at other times excepting slight headaches. Appetite good, with excellent digestion and regular bowels. Painful and frequent urination only during periods. Menstruation at thirteen, always regular. During the last ten years her periods have become more and more painful. The pain commences, about thirty-six hours before the flow, in the back, groins, and in front, sharp, and obliging the patient to take to her bed, with severe cramps. The flow then begins and is scanty at first, giving some relief to the pain. It then increases in amount, and much pain is followed by expulsion of clots. The flow lasts three or four days, and recurs every twenty-eight days. Severe frontal headache during first two days of flow. Some cervical leucorrhœa. Diagnosis: congenital anteflexion, retroversion of the third degree, some prolapsus. Ordered to take liquor sedans, one drachm four times daily for week before and during menstrual flow. Fothergill's pills should the flow be delayed; nourishing food, outdoor exercise.

January 2, 1890.—Periods are more tolerable, but still less pain; uterus in good position as regards version and prolapsus.

March 7th.—Of late the remedy seems ineffectual; passed sound, and dilated internal os.

April 12th.—Last period with much less pain, no headache, and was not confined to her bed.

June 27th.—Last two periods passed with much less than usual pain. Application of carbolic acid made to endometrium. Canal patent, and there is no leucorrhœa.

September 20th.—Last period practically painless while using liquor sedans.

Case VI.—Miss S. H., twenty-eight years old, after an illness of two years was first seen November 24, 1889. Her lips are pallid; is troubled with atonic dyspepsia, constipation and considerable abdominal pain, faintness, dyspnœa on exertion, anæmic bruit in vessels of neck. Frequent urination at times of period, but no pain. Menstruation commencing at fifteen, is regular every four weeks, and lasts three days. Of late recurs every fourteen to twenty days and lasts a week, with profuse flow; vaginal leucorrhœa. Pain in loins and back. Diagnosis: menorrhagia; retroversion, second degree. Ordered liquor sedans, one drachm four times daily for week before and during menstrual flow. Daily movement of bowels to be secured by hygienic methods.

December 30th.—Result good; interval is lengthened to twenty-eight days, and flow is nearly normal.

February 19, 1890.—Time of flow, three days; amount is normal, and now has no pain.

Case VII.—Miss S. M. P., aged twenty-five, was first seen June 2, 1889, after an illness of four years. She is anæmic, suffers from neuralgia and emansio mensium of six days' duration. Complains of inappetence, headache, fullness of head, throbbing in temples, palpitation, frequent urination. Menstruation irregular, recurring every four to six weeks, lasting four days, with small amount of flow, cramps, and clots; color pale. Pain in back and loins, extending down sciatic nerves. Headache at the vertex. Diagnosis: congenital anteflexion with retroversion of first degree. Ordered to take Fothergill's pills during premenstrual week, and one drachm of liquor sedans during flow.

June 24th.—Is much improved as regards pain during her last period. Flow still scanty, but did not pass clots.

February 1, 1890.—Is still anæmic, but periods are passed with comparative comfort.

June 5th.—A severe fall is followed by abdominal tenderness, much uterine colic, and considerable pain extending down both sciatic nerves, more marked, however, upon the right side. Retroversion is now of the second degree. Colic is relieved by twenty-drop doses of concentrated tincture of avena sativa every half hour in hot water.

20th.—Is passing through period with less than usual pain. Retroversion reduced by position. Complains much of sleeplessness, for which chloralamid in twenty-grain doses is ordered.

30th.—Greatly improved; chloralamid is to be omitted. To use liquor sedans during the flow.

September 29th.—During her stay in the country has greatly improved. Periods are now painless while using the remedy.

Case VIII.—Mrs. M. J. N., aged twenty-nine, was first seen on June 1, 1889; has been under great mental strain for several months. She was suffering from palpitation of the heart, faintness, vesical tenesmus, frequent urination at times of her period, poor appetite. Her conjunctivæ were yellowish, liver dullness enlarged, edge rounded, with some hepatic sensitiveness. Constipation, pain in back, groins, and thighs, cramps, and bearing-down pains. Catamenia regular but profuse, backache worse on walking, slight vaginal leucorrhœa. Has also vertigo, insomnia, and general nervousness. Diagnosis: anteversion, laceration of cervix, and cystic degeneration of the same caused by a miscarriage three years previously. Ordered to take liquor sedans, one drachm three times daily, with thirty grains of sulphonal after dinner. Full diet. Emmet douche.

June 16th.—Has fewer cramps and less backache; urination nearly normal, frequent only when much upon her feet.

September 30th.—To use liquor sedans only during menstruation.

February 16, 1890.—Menstruation nearly normal in amount. Constipation relieved by Villacabras water.

May 23d.—Has gained ten pounds in weight; sleeps without drugs.

September 20th.—Considers herself well.

Case IX.—Mrs. A. J., thirty-five years old, was first seen on March 5, 1890. She had been ill for three months, complaining of neuralgic headaches. Bowels moderately regular. Catamenia at fifteen. Has had two children and several miscarriages. During the past three months her menstruation, although usually regular in time, has recurred every twelve to fourteen days and has lasted four days. This flow is profuse and is accompanied by fainting. Pain in the back is very marked during flow; at times pains in groins; some vaginal leucorrhœa. Diagnosis: laceration of perinæum of the second degree, laceration of cervix, retroversion of first degree, slight prolapsus, granular endometritis. Ordered to take liquor sedans, one drachm thrice daily. Emmet douche.

April 6th.—Flow now recurs every three weeks and is less in amount. No more fainting attacks. No leucorrhœa.

June 25th.—Is now in good condition. Prolapsus relieved.

July 20th.—To omit medication except for three days before flow.

October 21st.—Flow normal and pains very slight.

Case X.—Mrs. R. H. E., aged thirty-five, was seen on December 30, 1889. Her sickness dates back three months. Is somewhat nervous, has slight choreic twitching of the face, rarely attacks of atonic dyspepsia. Bowels move regularly every day. Complains of frequent urination, especially after standing or walking. Has had several miscarriages and one living child, now three years old. Catamenia at thirteen, always regular, recurring every four weeks, generally profuse, and lasting five days. For last three months has noticed a yellowish-white vaginal discharge, which has increased in amount. Has considerable pain in the back, worse on walking, when she easily gets tired. Some increase in the amount of menstrual flow. Pain in back worse during periods. Diagnosis: retroversion of the second degree, catarrhal endometritis, cervical leucorrhœa. Ordered to take liquor sedans, one drachm thrice daily, constantly. Emmet douche, with alum.

January 19, 1890.—Vaginal discharge has markedly diminished; no pain in back; retroversion relieved by tamponade.

March 17th.—Patient much improved in general health; flow normal in amount, and has now no leucorrhœa; uterus is in good position.

September 2d.—Has returned from the country in excellent condition.

Case XI.—Mrs. W. V. P., aged thirty-two, was first seen on May 24, 1889. She is thirty-two years old and has been ill for six years. She complains of dizziness and faintness at times, but rarely of palpitation. Has a considerable amount of cervical leucorrhœa. Catamenia regular every four weeks, lasting eight days and very profuse, with cramps and clots; pain in the back, worse on walking; sometimes pain in the groin for two days preceding flow. Headaches, especially at times of period. Diagnosis: endometritis simplex, anteflexion, retroversion of first degree, with small uterine fibroid in anterior wall. Ordered liquor sedans, one drachm four times daily. Emmet douche.

May 27th.—Outerbridge's dilator inserted. Cervical leucorrhœa somewhat diminished in amount. Cervical canal will admit a uterine sound without difficulty. Uterus is in the normal position.

October 15th.—Now has no more cramps, and rarely clots; flow much diminished in amount. Takes liquor sedans only during period.

December 6th.—Periods are now at full time and occasionally a few days beyond.

April 7, 1890.—Has now no pain. Cervical canal patent; general health much improved.

September 12th.—No pain or vaginal discharge; is in excellent condition.

In the recording of these cases I have endeavored to give a faithful picture and an accurate report of the results. From these we may say that in all cases of hyperæmia of the female reproductive system we have in liquor sedans a safe and reasonably sure remedy. In many spasmodic diseases and in a few cases of anæmia of these organs we find the remedy also indicated. It certainly has a wider field of usefulness than any single drug, and, if used after a careful diagnosis is established and after thorough appreciation of the pathological conditions that exist, we can anticipate a successful issue so far as improvement is possible from purely medical methods.

690 Madison Avenue, *October 31, 1890.*

Correspondence.

LETTER FROM NEW HAVEN.

The First Koch Inoculations in America.

New Haven, *December 8, 1890.*

On Thursday, December 4th, the people of this usually quiet and somnolent town were aroused by the announcement in the morning papers that a small quantity of Koch's "lymph" for the cure of tuberculosis had been received by Professor Chittenden at noon of the preceding day; that Professor Chittenden, desiring that it should be used for scientific study, and not being himself engaged in practice, had intrusted it entirely to Dr. John P. C. Foster for experimental investigation; that on the preceding afternoon Dr. Foster had administered an injection of it to a patient with pulmonary tuberculosis; and that, on the afternoon of the day on which the announcement was made, an injection of the precious fluid was to be given to one of Dr. Swain's patients who was suffering with tubercular laryngitis, and to a subject of lupus who was a patient of Dr. Francis Bacon's.

The interest in the matter has not been confined to New Haven, if one may judge from the eagerness with which the newspapers of the large cities have tried to learn all the details, and from the prominence that has been given to the accounts of the experiments. Doubtless many a physician as he has read these accounts has wondered how it happened that Koch, who is reputed to have been so very careful as to whom he trusted to make trial of his curative "lymph," should have sent a sample of it to New Haven, rather than to New York, Philadelphia, Boston, or Baltimore, or even to Chicago, Cincinnati, or St. Louis. Some may have been surprised that it was received by Professor Chittenden, a physiological chemist, rather than by a pathologist like Welch or Prudden, and that it fell into the hands of a physician whose name they had never seen attached to an article in any of the journals, rather than into the hands of distinguished clinicians and authors like Delafield, Janeway, Loomis, or Trudeau. But to the physicians of New Haven, among whom the facts are gradually becoming generally known, the arrival of the wonderful "lymph" seems less strange now than it did last week. It happened in this way. A resident of this city, a Mr. Blake, has a son who is (or at least was before being subjected to the Koch treatment) critically ill with pulmonary tuberculosis. Mr. Blake read of Koch's discovery, and concluded that he would like to have it tried upon his son. Professor Chittenden was persuaded to endeavor to obtain some of the fluid. He is a personal friend of Professor Kühne's, of Heidelberg, and from Heidelberg a small quantity of the liquid, which—by special messenger, the newspapers state—had just been brought from Berlin, was sent to Professor Chittenden. Dr. Foster is the young man's physician and also his relative. It was therefore very natural that the use of the "lymph" should be intrusted to him.

Fortunately, Dr. Foster, although he does not contribute to medical periodicals and seldom takes an active part in the proceedings of medical societies, and therefore has not a very wide reputation (or did not have before his name became associated with that of Koch), is nevertheless a very excellent practitioner. He is a man of good education, having been graduated from the academical department of Yale University in 1869, and from the medical department in 1875. He is instructor in anatomy in the Yale School of the Fine Arts and acting assistant surgeon of the United States Marine-Hospital Service. He belongs to one of New Haven's old families, and one of considerable social prominence. He is refined and affable in manner, and moves in the best society. He does an active and lucrative practice, especially among students and families of wealth and social and intellectual distinction. Altogether he is not such a man as one would expect to make any great discovery in the dead-house or the laboratory, perhaps not such a one as Koch himself would have selected to make the first trial of his new treatment in America, but nevertheless a very good man for this latter work, because he is possessed of sufficient scientific training and intelligence to be able to observe anything worth noting in connection with the action of the remedy, and because he is not likely to be prejudiced by any preconceived notions in regard to its value.

Of the practical results of the treatment as applied to the patients in New Haven it is still too early to speak, inasmuch as but five days have elapsed since the arrival of the remedy. Enough has been written to explain why it happened to be received in New Haven, and to show that the investigations here are being conducted by a competent and careful practitioner.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 13, 1890.

VIVISECTION.

We spoke last week of the public notice that had been taken of an attempt made in one of the city hospitals to fill a gap in a boy's tibia with a piece of bone from the leg of a dog, and expressed our regret that it should have been made the subject of sensational reports by some newspapers and of unsparing condemnation by others. The interests that may be imperiled by such experiments and by such notice of them are so important that a word of warning seems to be called for. Twenty-five years ago the antivivisection agitation was very active, and resulted in the passage, in 1866, by the New York Legislature, of the law under which we are now living. It is a law not only with which we may be satisfied, but of which we may well be proud, for it gives ample protection to animals and at the same time to properly conducted scientific research. It was the result of the efforts of the late Mr. Bergh, the honored president of the Society for the Prevention of Cruelty to Animals, acting in behalf of the animals, and of the late Professor Dalton, acting in behalf of the interests of science, and under it these two interests, which in many other regions are in permanent and irreconcilable hostility to each other, have here continued in peace and mutual respect.

But with the passing years there has come a generation "that knew not Joseph," a generation that is ignorant of the circumstances connected with the making of the law and, what is worse, even of the restrictions imposed by it.

Most physicians appear to be ignorant of the fact that the law *prohibits experiments upon animals*, and makes an exception only in favor of "properly conducted scientific experiments or investigations . . . under the authority of the faculty of some regularly incorporated medical college or university of the State of New York." We know it to be true of some of our medical colleges, and we believe it to be true of all, that they have fully appreciated their responsibility under this law and have been exceedingly circumspect and chary in extending the opportunities thus placed under their control. But many such experiments have been made without such authorization and apparently without a suspicion that it was required, and their details and results have been freely published.

On the other side there are men and women who are ignorant of the agitation of twenty-five years ago and of the honorable agreement then reached, and who are inexpressibly wounded and shocked by the reports of acts that seem to them, and, it must be admitted, often with reason, to have been the cause of atrocious suffering without an adequate return. Many of them feel it a personal responsibility before God and their consciences if such practices are allowed to continue, and it can not be doubted that the feeling will ultimately take shape in action. We must even admit that it is right that it should. As a profession, we have taken a clear and positive stand in the matter. We were represented in the discussion that preceded the enactment of the law by some of our most honored members, and we supported them by formal resolutions passed by various county societies—resolutions that have been passed again and again whenever the agitation was renewed. If now individual members of our body have sinned against the law, against a law that we have accepted as just and fair, we must repudiate their acts and throw the responsibility upon the individuals and upon those who are charged with the enforcement of the law, or we must prepare again to fight against the hasty and emotional legislation that will surely seek enactment.

We are not referring specifically to the boy-and-dog experiment. That may or may not have been judiciously conceived and properly executed. Whether or not a graft from a dog to a boy is likely to succeed after a graft from the boy to himself has failed, and whether or not the radius of a dog may be an efficient substitute for the tibia of a boy, are questions upon which opposing opinions may perhaps be honestly held. We believe the surgeon was making a sincere attempt to benefit his patient. We also think the operation should be classed as a therapeutic measure, and not as such a vivisection experiment as was contemplated by the law. But it has been attended by so much notoriety that it may well prove the starting-point of an agitation greatly to be deplored—one from which our colleges, our laboratories, and our science might receive serious harm. To meet it we must put ourselves clearly in the right. It will not do to disclaim responsibility; we are responsible for the maintenance of a public opinion within the profession that will aid the law by frowning upon its infractions and by demanding a serious, thoughtful, and thoroughly scientific basis for any investigation that may cause suffering to even the most friendless brute.

MINOR PARAGRAPHS.

THE PROGRESS OF THE KOCH TREATMENT.

Koch's alleged remedy for tubercular disease is now being tried diligently in various parts of the world, but naturally the experiments in Berlin continue to be the greatest subject of popular and professional interest. The reports from that city indicate that the foreign physicians who went there to learn something about the matter are beginning to realize that they might as well have stayed at home. Specimens of the liquid have been received in New York and in New Haven, and its employment in New Haven has been under way for several days. One of the subjects of the experiments is said to be a person somewhat advanced in pulmonary phthisis, so that, as regards his case, a fair test of what Koch alleges for the remedy is hardly to be expected. As to the experiments in Europe, the fragmentary reports received concerning them do not seem to us to establish anything, except that the febrile reaction described by Koch does actually take place. It must be months yet before sufficient data can be obtained to settle the question of the curability of tuberculous disease by the Koch treatment —before, in fact, we shall know whether to class Koch's discovery with that of vaccination or with that of "gleditschine."

The experiments in New York were begun on Wednesday of this week; at St. Luke's Hospital by Dr. Kinnicutt, and at Mount Sinai Hospital by Dr. Jacobi. Both these gentlemen have the entire confidence of the profession, and the conclusions they report will have great weight.

OSTEOMALACIA IN CHRONIC DISEASE OF THE CENTRAL NERVOUS SYSTEM.

Dr. J. C. Howden, in the *Glasgow Medical Journal*, reports a case of mania followed by hyperæsthesia and osteomalacia. The post-mortem examination revealed softening of all the bones of the body except those of the skull. During the course of the disease there had been great pain and hyperæsthesia, which kept the patient constantly in bed, masking the mollities ossium, which was not detected until the autopsy. Dr. Konstantinovsky, in the *Medical Chronicle*, also contributes a monograph on this subject. The material for his study was derived from examinations of the dead bodies of patients who had suffered for varying periods with insanity in some of its forms. Twelve of them had had progressive general paralysis; four, dementia of various forms; two, imbecility; four, acute or chronic hallucinations; one, brain tumor; one, spinal myelitis; and two, endocarditis and tuberculosis. The last two were examined only casually. The chemical constitution of the ribs, the degree of their brittleness, the macroscopical peculiarities, and the histological characteristics were all inquired into. In summing up the results of his work the writer was of the opinion that in chronic disease of the nervous system, especially insanity, the ribs were apt to undergo very morbid changes, giving rise to brittleness, and hence a predisposition to fracture from the slightest violence.

SECTIONALISM IN MEDICINE.

In a recent discussion on intestinal anastomosis, at a meeting reported in the *Toledo Medical and Surgical Reporter*, one of the speakers mentioned a New York surgeon as objecting to Senn's plates, and as maintaining that the artificial channel of communication would contract so as to cause obstruction anew. The speaker added that he did not agree with the New York surgeon, and proceeded to class him with other surgeons of the East, who would not give credit for or place faith in anything that emanated from "the rowdy West," simply because the surgeons of "the rowdy West" did not "bend the knee often enough before the arrogant, self-conceited, autocratic, and jealous Eastern surgeons." This fraternal language followed upon this statement by the speaker: "Dr. Senn has been a great gleaner, and has received much credit for the ideas suggested by Connel and others." Dr. Senn lives farther west than Toledo, and perhaps he may look upon the Toledo censor as "arrogant, self-conceited, autocratic, and jealous," and be disposed to account for the fact by his not having bent the knee often enough before him. The remarks in question were, of course, only an exhibition of the speaker's individual spleen. There is no sign in the report that their spirit was entertained by anybody else present at the meeting, and we feel sure that those who cherish it, whether they live in the East or in the West, are few in number and utterly without influence to spread their offensive sentiments.

PAGET'S DISEASE OF THE BREAST.

Before the Northumberland and Durham Medical Society, at the meeting of October 9th, Dr. Hume exhibited a series of sections illustrating the pathology of Paget's disease of the breast, an account of which appears in the *British Medical Journal*. The clinical history of the case from which the sections were taken was peculiar from the fact that the enlargement of the axillary glands and the nodule in the breast had developed at the same time. From microscopical study of the sections Dr. Hume was of the opinion that the affection of the nipple was closely allied to, if not identical with, epithelioma; that the milk-ducts were dilated and disclosed an overgrowth of their epithelium, which took the form of tufts or villi; that the nodule in the breast showed an inflammatory small-celled exudation, and also groups of ducts and acini in which the epithelium was proliferating; and that the enlarged glands showed small-celled infiltration and cancerous structure. He concluded that the growth at the nipple had from the beginning been cancerous, and that it had spread downward into the ducts; that subsequently it had burst through the ducts into the stroma and become an ordinary cancerous nodule. He therefore recommended that in all cases of obstinate eczema of the mamma the breast should be amputated at once and the axillary glands enucleated.

COLCHICINE POISONING.

Dr. Millot-Carpentier, in the *Union médicale*, gives an account of a case of poisoning with this drug, a report of which Dr. Giulio Sprega recently published in the *Gazzetta degli ospitali*. Cotoine had been ordered for the patient, who had been a sufferer for several years with chronic intestinal trouble. By mistake, colchicine was given. Alarming symptoms of violent gastro-intestinal irritation soon followed; the pulse failed rapidly, there were involuntary stools and constant vomiting, and death occurred in four hours, notwithstanding every effort being made to control the symptoms. Before death the skin became insensible to the faradaic current. The autopsy revealed cutaneous emphysema, diffuse fatty degeneration of the liver, and mitral insufficiency. Under the mucous membrane of the stomach there was a blackish material, and in the intestinal canal there was a marked inflammatory condition with hæmorrhagic spots.

THE DEATH OF THE SURGEON-GENERAL.

The Surgeon-General's illness has terminated fatally, as we feared would be the case when we were closing up our last week's issue. Without questioning the wisdom and beneficence of Divine Providence, we feel that in expressing our own deep regret at General Baxter's sudden death we but give voice to the general feeling of the medical profession. His tenure of office was brief, and in the natural order of things it could not have been very much prolonged, but there was abundant ground for hoping that it would prove sufficient for the accomplishment of much work for which he was peculiarly well fitted, both naturally and by his training in subordinate offices. The army has been deprived of an excellent chief medical officer, and the medical profession has lost one of its brightest ornaments.

THE SOCIETY OF THE ALUMNI OF CHARITY HOSPITAL.

At a meeting, held on the 9th inst., Dr. Newton, of Montclair, N. J., presented a specimen, considered to be one of myxo-adenosarcoma, from the uterus of a woman eighty-two years of age. Dr. Brooks Hughes Wells read a paper on Perimetric Inflammations, in which he took the ground that no man suffering from even the slightest gleet should marry, because of the danger of infecting his wife and causing pelvic trouble. An animated discussion followed, which was participated in by Dr. Clement Cleveland, Dr. D. Bryson Delavan, Dr. W. L. Carr, Dr. J. B. Bissell, and others.

CORTICAL EXCISION IN THE TREATMENT OF PSYCHOSES.

Five cases of varied forms of chronic insanity are reported by Dr. Burkhardt in the *Internationale klinische Rundschau* as having been treated by removal of a portion of the cortex of the left frontal convolutions in three cases, and of the left parietal in two. There was marked amelioration of the violent symptoms, with an improvement in the mental condition in all but one of the patients. In that case the greater part of the cortex of the left parietal lobe was removed. Word-deafness followed the operation. The author is confident that the bad result in this case was due to carelessness in the operation.

PROTOPINE.

In the *British Medical Journal* there is a description of a new alkaloid with this name, derived from opium, but existing in very minute quantities. It has a formula of $C_{20}H_{19}O_5$, and was first isolated by Hesse in 1870. Further researches have detected it in the *Macleya cordata* and the *Chelidonium majus*, plants belonging to the natural order *Papaveraceæ*. Dr. von Engel, in the *Archiv f. exp. Pathologie*, describes the action of protopine on frogs. In small doses it had a narcotic action, while larger quantities acted as a poison to the voluntary muscles and to the motor nerve terminations, thus greatly obscuring any symptom of increased reflex action. The heart was slowed and weakened and the circulation much depressed, but there were no prominent symptoms of any action on the respiration.

INFECTION FROM MILK.

In the *Glasgow Medical Journal* for October there is reported an epidemic of sore throat and erysipelas occurring only in families that were supplied with milk from a certain farm. The most striking symptom was an intense inflammation of the fauces, resembling erysipslas of the mucous membrane, with swelling of the glands of the neck and in some instances suppuration. In some cases true erysipelas of the skin developed. The temperature ranged from 102° to 105° F. during the first few days of the attack. Convalescence was marked by extreme prostration. No bacterial examination was made, but a clear connection was traced between the milk and the epidemic.

A TREATMENT OF CHOLERA.

A simple method of treating this very formidable disease is given in the *Indian Medical Gazette* by Dr. Harkin, who says he has proved its value in a number of cases. The method consists in the application of a blistering fluid behind the right ear, with the view of stimulating the vagus nerve so as to inhibit the action of the sympathetic on the abdomen. The fluid, any epispastic, is applied with a camel's-hair pencil behind the ear and extending in the course of the pneumogastric nerve as far as the angle of the lower jaw. The result is at once apparent: the purging and other characteristic symptoms cease and the patients fall asleep long before vesication takes place and awake cured, or at least tided over the dangerous period.

THE TREATMENT OF CONDYLOMATA.

Dr. G. Finco (*Gazzetta medica lombarda*, June 21, 1890) employs a mixture of one part of corrosive sublimate and ten parts of collodion. The whole should be placed in a small bottle and well shaken in order to insure a minute division of the insoluble corrosive sublimate. The larger condylomata are first touched, a camel's-hair pencil being used, and this is followed by an application of cold water. The others are treated in the same way on successive days until their complete disappearance takes place.

SALIPYRINE.

In the *Medicinische Revue* Dr. P. Guttmann describes a chemical compound, $C_{18}H_{18}N_2O_4$, which contains in 100 parts 57·7 of antipyrine and 42·3 of salicylic acid, and to this substance he has given the name salipyrine. It is a white crystalline powder, odorless and of slightly acid taste, insoluble in water but soluble in alcohol. Therapeutically, it is an antipyretic and antirrheumatic of considerable value, according to the experiments made by the author.

THE ST. LAWRENCE ASYLUM IN NORTHERN NEW YORK.

A new asylum, known as the St. Lawrence State Hospital for the Insane, was opened on December 1st for the reception of patients. When completed this institution will accommodate 1,500 persons. The New York State Commission in Lunacy is preparing to make a transfer of the pauper insane now lodged in the various almshouses in the northern tier of counties to this new hospital.

A QUINTUPLE BIRTH.

The *Lancet* has an annotation referring to the recent accounts, in the newspapers of Brittany, of the safe delivery of a peasant woman of five children at a birth. She lived at Nozay, near Nantes. At the time of the last report all the children were alive.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 9, 1890:

DISEASES.	Week ending Dec. 2.		Week ending Dec. 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	1	0	0	0
Typhoid fever	25	3	19	6
Scarlet fever	93	9	77	6
Cerebro-spinal meningitis	3	3	2	1
Measles	225	12	254	15
Diphtheria	90	28	114	35
Small-pox	1	0	0	0
Varicella	12	0	4	0

The Society of the Alumni of Charity Hospital.—The following-named gentlemen were recently elected officers for the ensuing year: Dr. D. Bryson Delavan, president; Dr. Ramon Guitéras, vice-president; Dr. D. E. Walker, secretary; and Dr. A. T. Muzzy, treasurer.

The Jenkins Medical Association, of Yonkers.—At the next meeting, on Thursday evening, the 18th inst., a report will be presented from the Section in Surgery, and Dr. Joseph D. Bryant, of New York will read a paper.

The Massachusetts Medical Society.—At the meeting of the Section in Clinical Medicine, Pathology, and Hygiene of the Suffolk District Branch, on Wednesday evening, the 17th inst., Dr. W. N. Bullard will read a paper on The Care of Chronic Pauper Epileptics.

The American Public Health Association will hold its eighteenth annual meeting in Charleston, S. C., on Tuesday, Wednesday, Thursday, and Friday, the 16th, 17th, 18th, and 19th inst., under the presidency of Dr. Henry B. Baker, of Lansing, Mich.

Change of Address.—Dr. H. Marion Sims, to No. 4 West Forty-seventh Street.

The late Dr. Richard J. Levis.—At a special meeting of the faculty of the Philadelphia Polyclinic and College for Graduates in Medicine the following preamble and resolutions were unanimously adopted:

Whereas, The Divine Ruler of the universe has seen fit to remove from among us Dr. Richard J. Levis, our friend and colleague; therefore, be it

Resolved, That, in the emeritus professor of surgery of the Philadelphia Polyclinic, not only we, but the whole medical profession, have lost an honored and faithful colaborer; and the community have cause to mourn a skillful and learned physician, an honest and sympathizing friend.

Resolved, That by his kindness of manner, by the thoughtful interest which he always manifested in the younger members of the profession, by his encouragement, his earnestness, and his example, he had endeared himself to all, and that, to fitly honor and cherish his memory, we must emulate his zeal, and vie with each other in carrying forward the great work in which he was engaged.

Resolved, That we tender to his family in this sad hour of affliction our heartfelt sympathy.

Resolved, That these resolutions be handed to the family of our beloved colleague and to the medical journals.

[Signed.] THOMAS J. MAYS, *President.*
S. SOLIS-COHEN, *Secretary.*

Society Meetings for the Coming Week:

MONDAY, *December 15th:* New York County Medical Association; New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *December 16th:* American Public Health Association (first day—Charleston, S. C.); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburgh, N. Y., Medical Association; Baltimore Academy of Medicine.

WEDNESDAY, *December 17th:* American Public Health Association (second day); Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medico-legal Society; Medical Societies of the Counties of Allegany (quarterly) and Tompkins (semi-annual—Ithaca), N. Y.; Massachusetts Medical Society, Suffolk District, Section in Clinical Medicine, Pathology, and Hygiene (Boston); Stafford, N. H., District Medical Society (annual—Dover); New Jersey Academy of Medicine (Newark).

THURSDAY, *December 18th:* American Public Health Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; Metropolitan Medical Society (private); Jenkins Medical Association, Yonkers, N. Y.; New Bedford, Mass., Society for Medical Improvement (private); Addison, Vt., County Medical Society (annual).

FRIDAY, *December 19th:* American Public Health Association (fourth day); New York Academy of Medicine (Section in Orthopædic Surgery); Chicago Gynæcological Society; Baltimore Clinical Society.

SATURDAY, *December 20th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Proceedings of Societies.

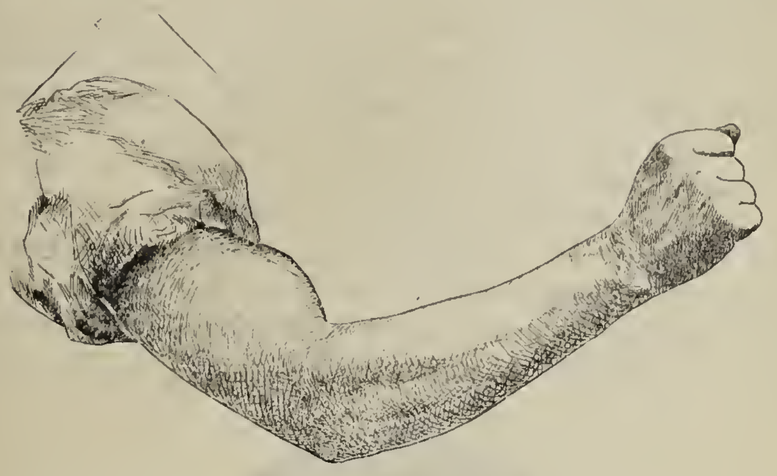
NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

Meeting of November 10, 1890.

Dr. ROBERT ABBE in the Chair.

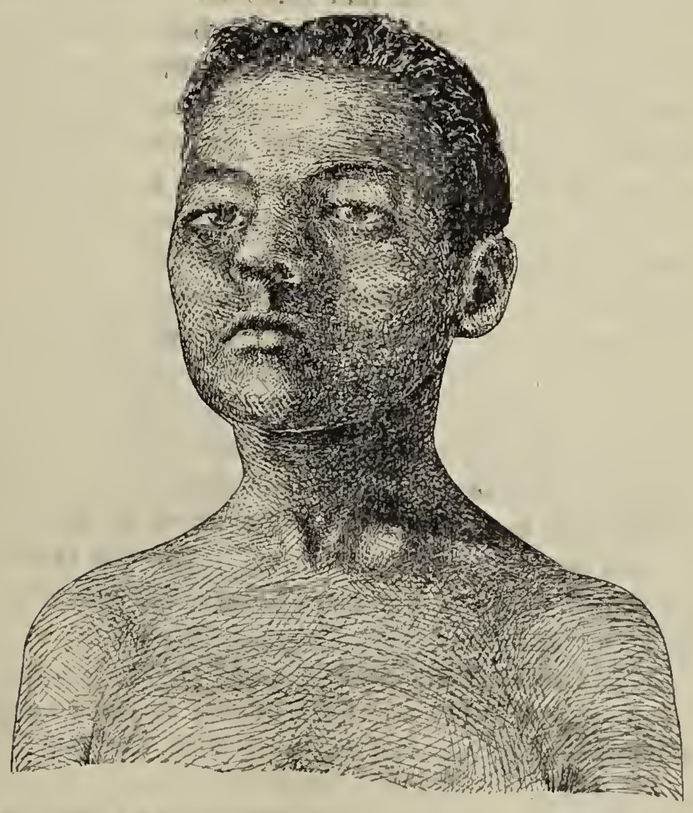
Rupture of the Short Head of the Biceps.—Dr. V. P. GIBNEY presented a man of forty years of age who had recently come to the hospital on account of some injury to his knee. The speaker had recognized the patient as one he had treated some seven years ago for rupture of the short head of the biceps muscle. At that time a photograph was taken. No treatment was instituted, after consultation with Dr. Bull. The injury had resulted from lifting some heavy body; the man heard a snap and the arm at once fell useless to his side. Some two or three months after the accident the patient had begun to use his arm again a little, and had gradually acquired sufficient power in it to enable him to resume work. He now found it almost as useful as ever, except in certain positions.



Epithelioma of the Nose.—Dr. I. H. HANCE showed an elderly woman upon whom he had recently operated for this condition. The epithelioma had followed upon a slight injury to the face, the patient having received a scratch some fourteen years ago which had scabbed over but had never entirely healed. The speaker had done two operations on the face, the primary one consisting in taking a flap from the cheek and turning it over on to the nose. The second operation had included the removal of the scar and the enlargement of the opening into the nostril, use being made of the redundant tissue embraced in the pedicle and flap.

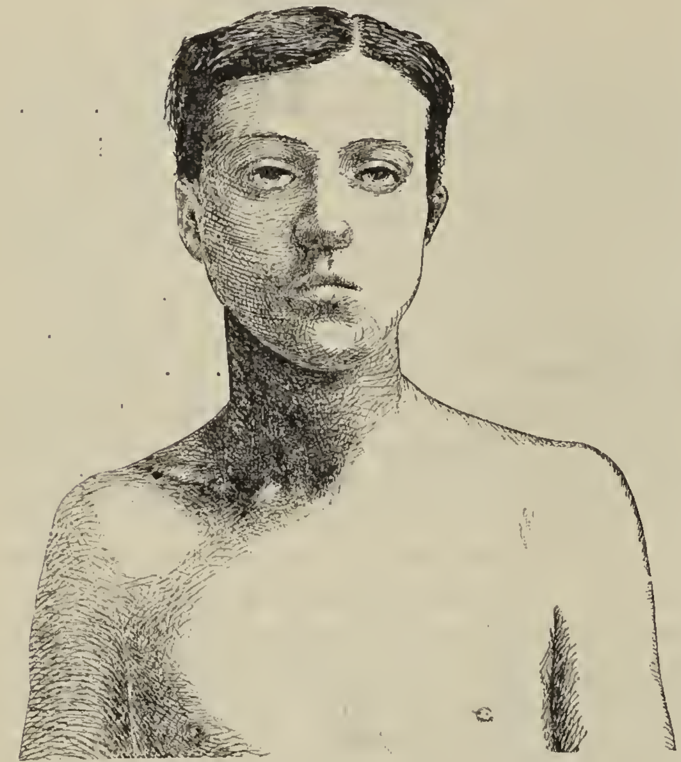
The CHAIRMAN thought the result was extremely satisfactory, and the circulation in the flap seemed exceptionally good, which was due, perhaps, to the pedicle being so near to the angular artery.

Fracture of the Sternal End of the Clavicle.—Dr. VAUGHAN presented a boy who some three weeks before had suffered this injury. The fracture had been the result of indirect pressure, some man having leaned his whole weight on the boy's shoulder. There had been but little pain and only slight



swelling following the injury. The fractured sternal end of the clavicle could be felt running up internally to the sterno-cleido-mastoid. The speaker had made every effort to loosen it from its position, but without effect. He had then treated the case by continuous pressure, and the results so far had been satisfactory. The points of interest were the rarity of this form of fracture, the apparent impossibility of reduction at the time of the injury, and the very fair results obtained after only some ten days of continuous pressure.

Dr. C. A. Powers said that he had seen this case soon after the accident. The deformity was extremely marked. He thought that these fractures within an inch of the sternum were rare. He had only come across one among a pretty fair number of collar-bone fractures. The condition in one of these cases was well shown in the photograph which he exhibited and which was taken a year after the injury. It was difficult to bring these cases out perfect, but he thought that, no matter how great the resulting deformity, the function of the parts involved was generally restored.



Large Tumors of the Neck.—Dr. F. Kammerer exhibited a patient from whom he had removed a large tumor of the neck. His object in bringing the case before the Section was, he said, to suggest the utility of dividing the sterno-cleido-mastoid muscle in removing these large tumors of the lymphatic glands of the neck which included the lower strata of glands below the sterno-mastoid. It was of the very greatest importance to remove all the glandular tissue, and if this were done he thought that the results would be better.

Ankylosis of the Jaw.—The Chairman showed a patient upon whom he had operated some ten years before for ankylosis of the jaw. The results had been happy, immediate, and continuous. When a boy of three years old this patient had had scarlet fever, followed by suppurative otitis and exfoliation of the ossicles. The speaker had cut down, exposing the facial nerve and the carotid artery. The fibers of the nerve were easily held out of the way of injury. He had then cut out a wedge shaped piece of bone at a point about an inch from the articular surface.

The Chairman then showed a girl with the same trouble, who had for fourteen years been unable to open her jaws, her food being pressed into the mouth through the gap left by two absent incisors. The condition had resulted from an injury. There was in this case enough motion to give a clew as to which side the injury had been on. The temporal and masseter muscles showed vigorous contractions, and, though there was a great deal of atrophy of the muscles around the lower jaw, he thought there was every prospect of a good result from operative interference.

Dr. S. T. Armstrong asked if the chairman had any experience with the Italian operation, in which the jaw was divided from within the mouth and motion persisted in, with the idea that this would prevent bony union. He believed that the originator of the operation had recorded several successful cases, but had not heard of any American surgeons taking the operation up.

The Chairman said that the method was that of Rizzoli. It had, however, been superseded by Esmarch's operation, which consisted in removing a segment of the jaw, after external incision, thus insuring a false joint. He thought that resection of the neck of the condyle was a satisfactory procedure. In further answer to a question, the chairman said that the ankylosis found was almost always fibrous. Bony ankylosis was quite rare.

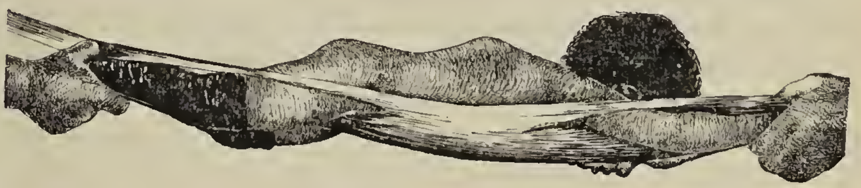
Gonorrhœa in a Boy of Three Years of Age, followed by Tight Urethral Strictures Six Months later, requiring Internal and External Urethrotomy.—The Chairman related the history of this case. The patient, a healthy child, was brought to him suffering with incontinence of urine, pain in the urethra, and a slight discharge resembling gonorrhœa. Nine weeks before, the child had been tampered with by a young woman who had been rescued from the street and given occupation in the house of the child's parents. Within two weeks it had swollen penis, urethritis, incontinence, and pain. It was treated by urethral irrigation with 1-to-8,000 bichloride-of-mercury solution. Gonococci were found in the discharge. Cure had followed in a short time. Six months subsequent to his being sent from the hospital cured, his mother had noticed him in great agony, vainly trying to pass water. He was again brought to the hospital, when his urethra was found strictured and impassable to the smallest instrument. His bladder was aspirated and a pint and a half of urine removed. Aspiration was repeated until the third day, when examination under ether showed three anterior strictures, and one tight one at the membranous portion, which just admitted a filiform bougie. They were dilated gently, but the deep one was so dense that urethrotomy was resorted to. The anterior ones were cut up to No. 22 French with the Otis urethrotome, and the deep one by external perineal urethrotomy. It was found to be a tough, gristly stricture. Perineal drainage by the catheter was continued two days, when a No. 22 sound was readily passed. Four days later, No. 24 was found to slip easily and painlessly into the bladder. After the seventh day all urine had passed *per urethram.* The No. 22 was passed occasionally for several weeks.

Dr. L. B. Bangs said that, although he had seen the disease in very young subjects, he had never seen it in one so young as this. The case was interesting in that it went to show how rapidly the cicatricial tissue following gonorrhœa might be converted into that recognized as stricture tissue. This change had in the present instance taken place in six months. It was also interesting to note the relation between the external measurement of the penis in children and that of the caliber of the urethra. It was surprising to find how easily instruments would enter the normal parts of the canal.

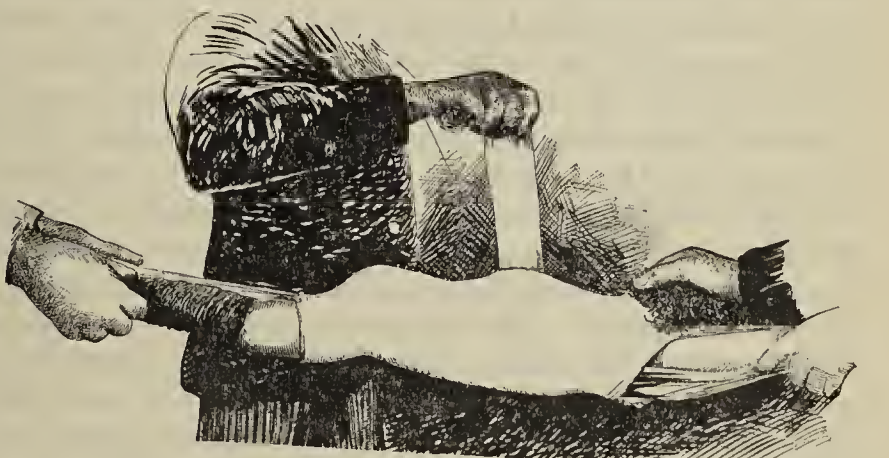
Dr. W. W. Van Arsdale said that he met with a great many cases of what he believed to be gonorrhœa in very young children. He had seen three during the last month. The youngest child was under ten months old. The two others were one year and four years, respectively. These particular cases had not been investigated as to the presence of gonococci, but he believed that the specific proofs would be readily found if searched for, as they had been frequently demonstrated in similar cases in hospital practice. He met with about ten such cases on an average every year. This was in about the proportion of ten to every three hundred and fifty adults infected. When it was remembered how the parents of many of these children lived, and the way the families were crowded together, the chances of infection would be readily understood as being great. The disease was quite difficult to treat, because of the size of the urethra, and the cases often took two or three months before they could be satisfactorily cured. The diagnosis could be made from the course of the disease. One troublesome feature in the case of young children was that the external parts became eczematous, owing to the accumulation of the discharge, and this led to stricture of the meatus. To avoid this, he now dilated or enlarged the orifice from the first and then tried to persuade the parents to keep the penis open by some moist dressing.

Injuries of the Vertebræ in Children.—Dr. D. J. Woodbury showed two cases of fracture of the vertebræ in young children. The first patient exhibited was a child which had fallen three stories through a fire-escape. When it was brought to the hospital there was a scalp wound exposing the left parietal boss, but no fracture at this point. There was also a hæmatoma in the left parietal region. There was some hæmorrhage from the mouth and nostril. The child was conscious and there were no symptoms of fracture. It was noted that the child, after its admission to the hospital, never could hold its head erect. The chin always rested on the sternum and could not be raised without assistance. No attempt was at this time made to ascertain whether the child could walk or not. A diagnosis of fracture at the base was made, which was, however, changed to that of fracture of the spine. On November 3d the child was brought to the speaker in the outpatient department at Roosevelt Hospital. It could then neither walk nor stand, nor could it sit up without support. The head was thrown forward on the chin and rested on the sternum. The slightest pressure upon the head apparently caused intense pain. There was no constitutional disturbance. On raising the head, by giving support under the chin, it was quite clear that the child was at once relieved. The treatment was with a plaster-of-Paris jacket and jury-mast. The improvement had been marked from the time of the application of the apparatus.

The next patient Dr. Woodbury presented to illustrate another phase of the treatment of these cases. This child had been operated upon soon after being injured. From a study of the treatment of these cases, the speaker was led to the conclusion that operation was generally too long delayed, only being turned to as a last resort. This child had fallen from a bed to the floor, striking upon her back. On admission into the hospital on August 8, 1889, there was incomplete paraplegia. There was loss of sensation and motion in the entire left side and on the right side also, with the exception of slight sensation to irritation in the great toe of that side. There was incontinence of urine and fæces. The disposition was very irritable. There was no high temperature, and emaciation was very great. Dr. McBurney operated, cutting down upon the spinous processes of the third, fourth, and fifth dorsal vertebræ, removing the laminæ with rongeurs and exposing the cord. The dura presented a normal appearance and was not opened. All pressure being thus removed, the wound was closed, a drainage-tube being left in the lower angle. On the fifth day the dressing was removed. Healing had taken place by first intention. The dressings were permanently removed on the fourteenth day. Immediately after the operation the irritability of the child had diminished and the general condition began to improve. The muscles of the back and lower extremities remained in apparently the same condition as before the operation, as did also the bladder and rectum. Faradism was resorted to, but without apparent effect. It was necessary to do something in the way of immobilization, and they had found themselves confronted with the problem as to how properly to adjust a plaster-of-Paris corset to the child, as it was perfectly limp, and under the circumstances the idea of suspension in the usual manner was not to be entertained. The patient was simply an inert mass which had to be carried about upon a pillow. He thought that it would be interesting to show how the difficulty had been surmounted, though he did not claim any originality for the method, as it had already been practiced before. Four layers of common cheesecloth were obtained, about seven to nine feet long and fourteen inches wide. One end of this was made fast to the wall and the other hitched to a block and tackle so that the tension upon the cheese-cloth could be adjusted. Slits were then cut in the material at about its center, corresponding in position to the arms, legs, and face of the child. The child was then placed face downward upon the cheese-cloth, and its arms and legs were slipped through the slits, the face resting in the slit prepared for it, thus allowing the child to breathe comfortably. It was now only necessary to fix the patient in this position, which was done by suitable bandaging. The child was now in the best possible position for the satisfactory application of the plaster. In this case a corset was made that would allow of removal for the application of electricity, massage, and other forms of treatment. Within the week there was great improvement in the bladder and rectum, and sensation gradually returned to the lower extremities. The improvement had been continuous, and the patient, as presented to the meeting, was able to stand alone without support of any kind.



Dr. R. H. Sayre said that in all cases where a plaster jacket was applied for the treatment of fractured vertebræ great care was necessary lest more harm than good be done. His father had been in the habit of applying traction to the spinal column as soon as possible, followed by fixation with a plaster-of-Paris bandage. Three of the patients so treated had recovered—two perfectly, and the other to all appearances. This latter patient had stated that he could endure very little fatigue, and that since the injury to his back he had been impotent. The object of applying traction as soon as possible was to endeavor to get the spine into its normal position and prevent pressure on the cord by the displaced fragments. He thought the method shown by Dr. Woodbury was excellent in every way and could hardly be improved upon.



Dr. Ketch said that in reference to the first case there was a point which had not been touched upon, and that was the possibility of the existence of Pott's disease in the superior cervical region. Bearing in mind this fact might be of service in doubtful cases. Of course he did not wish to be understood as expressing the opinion that this was such a case. It was found that in disease of the upper cervical vertebræ there was always interference with rotation, and on this a diagnosis could sometimes be made. Where there was interference with flexion, as in this first case, the lesion was lower down—between the second and third or third and fourth vertebræ. It had seemed to him that in this first case the question of fracture was a very doubtful one. He remembered a case in which a child had fallen from a very high place; there was no deformity, and the child did not receive immediate care and died. The postmortem had shown dislocation of the upper cervical vertebræ. He thought the cases might be treated in an apparatus that gave slight traction and support to the head in a proper direction. He had noticed that the patient with the jury-mast was allowed to turn its head. He thought the head should be immobilized with a certain amount of traction. The question of diagnosticating locality in these cases was very obscure, and if some deductions could be made from cases of Pott's disease, he thought this was a valuable point.

Dr. Woodbury said that rotation was now perfectly painless to the child. Before it was treated with this support motion had been impossible.

SECTION IN PÆDIATRICS.

Meeting of November 13, 1890.

Dr. L. Emmett Holt in the Chair.

Practical Hints on Sterilizing Milk.—Dr. Walter Mendelson read a paper with this title. He said that much of the confusion and dissatisfaction of the laity in preparing sterilized milk was due to the fact that the theoretical principles upon which they must work had never been simply and fully explained to them. He thought that it was not only the physician's duty to let the one upon whom the preparation devolved know the means, but the object as well. Explain to her or him that investigation had shown that not only were the curdling, souring, and other obvious changes due to the growth of bacteria or minute germs in the milk, but also that various dyspeptic and diarrhœal diseases of bottle-fed children were caused by the presence in the milk of similar minute organisms which might produce no change in the milk itself. Tell them that it had been found that, when milk had been heated to the boiling point and kept there for some time, both the plants and their seeds were killed and the milk was thus rendered fit for food. After having explained that the object was to prepare a food free from germs, the next thing was to show how to accomplish this. The milk, or suitable mixture of milk, water, cream, and sugar, should be prepared as early in the morning as possible, before the heat of the day had caused the bacteria to multiply. Great care must be taken in cleansing the bottles and nipples, and for this purpose "pearline" seemed to answer the best, using it with hot water and a bottle brush. The same bottle should never be used the second time without washing. With regard to stoppers, the best consisted of a plug made of ordinary cotton batting, folded into a pretty firm wad, and pushed down for half an inch or more into the neck of the bottle. The nipple should be a plain conical, pure gum one, with no constrictions in it, so that it could readily be turned inside out for cleansing. When not in use it should be scrubbed clean and placed in a glass of water to which a teaspoonful of borax had been added. As for the sterilizer, any apparatus would do that would answer the purpose of keeping the milk for about an hour at the temperature of boiling. But of the specially devised affairs for this purpose, "Arnold's steam sterilizer" was the most ingenious and at the same time simple. The sterilizing of milk had marked a great advance in our methods of infant feeding, and, as the triumphs of medicine in the future would seem to lie in the direction of preventing illness rather than of curing it, it should be the pride and interest of every physician to popularize the method under discussion, for it had already done much to lessen the morbility and mortality among infants.

Results of the Use of Sterilized Milk.—Dr. H. Koplik read a paper giving the results of his treatment with the sterilized milk in one hundred and thirty-four dispensary patients. (To be published.)

A member from Brooklyn said that they had now perfected all the arrangements in that city by which one of the large dairies did the work of thoroughly sterilizing a quantity of milk daily, putting it up in properly constructed bottles for delivery at the residences of customers. One of the preparations contained a proportion of cream. As to the legality of putting this upon the market in such form there had been some dispute, but quite recently a legal opinion had been given which practically settled the question, and there was now no reason why this and other preparations of sterilized milk should not be in general use.

Peritonitis in Infancy and Childhood.—This was the title of a paper by Dr. J. Lewis Smith. He said that peritonitis was likely to occur at any age, but the most interesting and fatal form was that which occurred in the newly born. This form had in times past been quite common in maternity wards and in tenement houses, in degraded and filthy families, who had no knowledge or thought of sanitary requirements. There was no doubt that in the ætiology of peritonitis in the newly born microbes played a most important part. The septic matter no doubt entered the system through the umbilicus, usually from the use of foul dressings, foul water employed in washing, foul fingers of the nurse, or other sources. Umbilical inflammation, with perhaps ulceration and the formation of a phlegmon, might occur, and septic matter be taken up by the umbilical lymphatics or blood-vessels and carried into the system. Peritonitis occurred in infancy and childhood from a variety of causes. It sometimes resulted from extension of inflammation from the abdominal walls or from one of the viscera which was the seat of a tumor or adventitious growth, encroaching upon and irritating the peritonæum. Septic infection occasionally caused peritonitis, when the conditions were favorable for it, in older children as well as in the newly born. Chronic degenerative disease of the kidneys was also a recognized cause of peritonitis, but less frequently in children than in adults. It was now known that a considerable number of the diseases which were formerly supposed to be due to taking cold were caused by microbes. Perhaps there was too great a tendency at the present time to ignore thermal changes in the atmosphere or exposure to cold as a cause of disease. In ill-nourished and scrofulous children inflammation and cheesy degeneration of the mesenteric glands sometimes gave rise to inflammation in the portion of the peritonæum which covered them. But peritonitis in infancy and childhood more frequently resulted from disease of the hollow organs than from that of the solid viscera. Intussusception, attended by bloody stools, tenesmus, vomiting, abdominal tenderness, and the occurrence of an abdominal tumor, was more common in infancy after the age of six months than in any other period of life. Another not infrequent cause was appendicitis due to the lodgment of a foreign substance in the appendix, or of a concretion, which caused by its presence pressure inflammation, ulceration, and finally perforation. Children less frequently than adults had ulceration of Peyer's patches in typhoid fever, but it sometimes occurred, ending in perforation or rupture and fatal peritonitis. Peritonitis had been known to follow traumatism of the abdomen. Recently a considerable number of cases had been published showing the microbic origin of peritonitis in certain instances. Some of the cases were caused by accidental inoculation, and others were due to the inhalation of sewer-gas. Experiments had been made, designed to elucidate the causal relation of microbes to peritonitis. Prince had found that the injection into the abdominal cavity of a small amount of an irritant not containing microbes—such as mineral acid, phenol, and nitrate of silver—caused peritonitis, but it was always sero-fibrinous, never purulent. Grawitz, in his experiments, had shown that, as a rule, two things were necessary for the causation of purulent peritonitis—to wit, the introduction into the peritoneal cavity of pus-producing organisms, and an abnormal state of the peritonæum from injury or contagious disease. Another observer had shown that if the peritonæum was in its normal state it might absorb a considerable amount of septic matter with no serious result, but that if it was injured or the subperitoneal connective tissue was exposed to infection, purulent peritonitis was likely to result. Experiments thus far had not perhaps been very satisfactory in throwing light on the microbic origin of peritonitis, but they seemed to show that purulent peritonitis, as a rule, resulted from the action of microbes, and the microbes known to be pathogenic caused peritonitis when injected into the peritoneal cavity, while the non-pathogenic germs did not produce such a result, even in a lesser degree. Tubercular peritonitis occurred much more frequently in infancy and childhood than in adult life. The symptoms, when peritonitis was due to a pre-existing disease, were, of course, accompanied by the symptoms of that disease, by which it might be rendered more or less obscure. The symptoms might begin in any manner, with gradually increasing tenderness of the abdomen, or abruptly with a chill or rigor. Constant pain increased by movements of the body or by pressure was the distinctive symptom occurring in localized peritonitis at the seat of the inflammation, but in diffuse peritonitis it began at some point and gradually extended over the abdomen. Tenderness on pressure was seldom absent, and the pain intensified by coughing or a full inspiration was in most cases seen in the early stage of the disease. The extension of the inflammation over the intestines produced paralysis of their muscular layer so that they became distended with gas. In cases of great abdominal distention the apex of the heart was carried upward, the liver and spleen were pressed upward and backward, and the distended transverse colon or portions of the duodenum or jejunum might lie in front of them, so that the normal dullness on percussion over these organs was replaced by the tympanitic resonance. The percussion-sound over the effused liquid was, of course, dull. The patient was quiet on account of the pain, lying upon the back or side with the knees flexed to relieve the tension, but the position was not uniform, as the legs might even be found extended. Constipation was usually present in the early stage. Vomiting was a common and painful symptom. The pulse was accelerated in some cases, very frequent as well as very feeble. The countenance was anxious, but the mind was clear, or there might be a mild delirium, the speech being incoherent and rambling. Retention of urine was common. In the pathological anatomy of localized peritonitis the action of the cause, as the name implied, was limited to a portion of the peritonæum. In acute diffuse or general peritonitis the inflammation commonly began at one point, but it rapidly extended over the peritonæum. The relative proportion of the different inflammatory products varied greatly in different cases, and in all not only were serum and fibrin present, but pus-corpuscles could be detected under the microscope. The fibrinous exudation upon the peritoneal surface occurred either in patches or continuously over a considerable part of the visceral peritonæum. It was prone to form a covering of varying thickness over the large and immovable organs. The connective tissue underlying the peritonæum underwent proliferation, producing granulations, which, when coming in contact with opposing surfaces, united, forming adhesions, and these at times involved the intestines and viscera, producing disastrous results. In purulent peritonitis, the pus formed, being heavier than the serum, gravitated to the lowest part of the abdominal cavity. In patients that recovered the serum was the first to be absorbed, and the fibrin and pus cells underwent fatty degeneration, became granular, liquefied, and were absorbed. Sometimes collections of pus became encapsulated and remained inert. By careful attention to the distinctive symptoms a mistake in diagnosis ought not to occur. Peritonitis in children was always a grave disease; in most instances its progress was rapid toward a fatal termination. The author was confident that much could be done in the way of prophylaxis in these cases if a little more attention was given to the matter. Scarcely any disease more urgently required early and judicious treatment than the one under consideration. Proper selection of the diet was a matter of the greatest importance. Such food should be recommended as was most concentrated, predigested, or easy of digestion, and such as would give the minimum amount of fæcal matter. Sterilized milk was by far the best food for this purpose. For children over two years of age some farinaceous food could be added. Purgatives should be avoided. A nutritive or laxative enema was the best for this purpose. Of the drugs, opium, camphor, digitalis, alcohol, and strophanthus were used, as the urgencies of individual cases required. The removal of the cause of a disease, if it could be effected safely without material injury to the patient, evidently contributed greatly to recovery.

The Chairman said that a great deal of stress had been laid from time to time upon the grape-seed point. He had never yet found such seeds in any appendix vermiformis. He thought it was a little hard on children that, on the strength of this apprehension, they were to be debarred from eating fruit.

Dr. J. E. Winters thought that the most important causes of peritonitis in children were typhlitis, perityphlitis, appendicitis, traumatism, tuberculous disease, and intussusception. In regard to the first three conditions, the cases, of course, required to be seen early, when he thought that a critical examination ought to result in a correct diagnosis. The traumatic cases were more difficult, for the reason that most children were unwilling to acknowledge the indiscretion which had led up to the traumatism. In dispensary practice this was particularly difficult to elicit; but brutal treatment by the parents was a frequent cause of the peritonitis. The tubercular variety required acquaintance with the family history, and called for a thorough examination as to the existence of general tubercular disease in the patient. Without all these points, few physicians would be willing to make a diagnosis of tubercular disease in the peritoneal cavity. In intussusception the symptoms were sufficiently pronounced to make a diagnosis tolerably easy. A diagnosis of peritonitis from either of the three first-named causes having been made, then came the question of management. He thought that at the present time most men used cold. The inflammatory processes were sufficiently superficial to be influenced by the external application of cold, and he thought that the results were, on the whole, more favorable than from heat. Only in the case of absolute inability on the part of the patient to tolerate its application would he use anything for external application except ice. If cold would not relieve the pain, then morphine must be used. It was important to remove all substances from the large intestines, and for this purpose he thought that it was best to employ small doses of triturated calomel.

The frequent injection of ice-cold water into the rectum was desirable after the use of the calomel, or of castor-oil. In the traumatic cases, having gained the confidence of the child and obtained a careful history of the case, he thought that cold applications and a clearing out of the alimentary canal were, as a rule, sufficient, together with the strictest dietetic management. In the tuberculous cases the physician could endeavor to give relief by counter-irritation by means of iodine. In this way the early indications might be met. If suppuration was expected, an operation might be resorted to. In cases of perityphlitis and appendicitis, where, having made a causal diagnosis, and having failed by judicious means to relieve the local symptoms, laparotomy should be suggested. As now undertaken, the operation was not serious, and it was far simpler at the outset than after extensive adhesions and infiltration had taken place.

Dr. Smith thought that, if the surgeons were to examine the concretions carefully which they found in the appendices, they would often discover that seeds and other foreign bodies were the real cause of the trouble. He was not inclined to withdraw from the stand he had taken in the matter of grape seeds.

SECTION IN THEORY AND PRACTICE OF MEDICINE.

Meeting of November 18, 1890.

Dr. Francis Delafield in the Chair.

The Medical Aspect of Trephining in Epilepsy.—Dr. J. C. Minor read a paper with this title. He said that, from long clinical observation, he had concluded that epilepsy did not disappear spontaneously, but that about one half of all the cases presented for treatment were curable, whether the cases called for medical or for surgical treatment. The reason that surgical interference did not offer better results was, the speaker thought, due to the cases not having been properly selected. He thought that the indications for trephining in epilepsy were pretty definitely marked out. The indications were described under three headings: 1. Those that were plainly traumatic and presented a depressed fracture of the skull, osteitis, and tumors of the brain. 2. Those without any apparent lesion of the skull, but with old cicatrices of the scalp. 3. All those cases of epilepsy the symptoms of which indicated cortical lesions. The speaker was satisfied that more than half the cases presenting for treatment would come under one of the above groups. The history of a case was then reported. The patient, a young man, seventeen years of age, had five years ago been hit on the head with a brick which had fallen from quite a height, producing only a scalp wound. Four years later the first attack came on, and during the last year epilepsy had become fully established. The attacks came on with a distinct aura, contractions commencing in the right hand and arm. Pressure on the scar would bring on the aura and produce a typical attack. Trephining in this case had disclosed no injury to the skull, but the removal of the cicatrix had ameliorated the condition. The speaker, from his observations in this case, was led to the conclusion that it was always well to begin the treatment, in cases presenting cicatrices, by removing the scar. Several cases had been reported cured, treated in this manner, and he thought it was well worth trial. He did not think that in trephining at the site of injury the actual lesion caused by it could be found in every case. The contra-indications for operative interference were in all those cases where the cause was not clearly defined and in those of long standing where the patient's mind had become enfeebled and the general condition would offer no hope of recovery. Finally, when the indications were for surgical treatment, the operation should be done promptly, as by so doing the best possible chance would be given to the patient.

Dr. Robert F. Weir was quite in accord with the rules laid down by the speaker. Despite the fact that operations were being done on the brain by some of the most careful surgeons, the mortality was still quite high, averaging from fifteen to twenty per cent. His experience in brain surgery had led to the conclusion that much would yet be done in this direction, but that when the technique of the operation was better understood the results would be better.

Dr. Robert Abbe reported the histories of two cases in which an operation had been performed, the results of which led to the conclusion that conservatism was to be practiced in operating in such cases.

Dr. E. D. Fisher thought that it was a difficult matter to say which cases should be operated on and which not. He thought that chronic epilepsy, traumatic lesions with consequent organic lesion, congenital spastic paraplegias with associated epilepsy, and a focal lesion becoming general, were certainly not suitable for operation. Cases had been met with where the scar was a source of irritation, but again it was often present when it did not cause any trouble whatever, so he could not agree with the speaker in thinking that it was a good thing to trephine in these cases. He had had a case which had appeared to offer every indication for trephining. The operation had seemed to be a success, the patient had improved for two or three weeks, but had after that relapsed into his old condition. It was the speaker's opinion that all the cases of idiopathic type of epilepsy were originally traumatic.

Dr. L. C. Gray thought that, in reviewing the question of the indication for operation in epilepsy, it would be just as well to first ask what was epilepsy. It was still a question as to whether epilepsy was a disease or a symptom of one, and if either, what were the cause and nature of it? Whether it might not be due to peripheral irritation had been pretty thoroughly gone into, and it was found that after every source of irritation had been removed the attacks went on the same as before. The histories and data were wanting in definite value. This was thought to be due to the fact that cases were not kept under observation long enough, and not followed up with a definite object. Idiopathic epilepsy with marked changes had been known to go on for years without a fit having occurred. There was no doubt that many of the cases were organic in origin. Those that were due to meningitis in early infancy certainly could not be operated upon. Such cases as were due to the same causes were called in the adult idiopathic, simply because the definite course of the disease was not known. The traumatic cases offered but little better results for operative interference on account of the very limited knowledge of the focal centers. The only ones isolated were those of the arm, leg, speech, word-deafness, and hæmianopsia; when we undertook to go beyond that point we were in the field of speculation. It was still a question whether, if operation were performed in cortical epilepsy, the habit of the explosion was not too confirmed to cease. The speaker related the history of a case of subcortical lesion in which no loss of consciousness had occurred. He thought the whole question bearing on epilepsy was still distinctly *sub judice*.

Dr. Minor said that the indications and rules laid down by him had been made up principally from reports and his own clinical experience. He was sure that some cases had been cured of the attacks by the operation, but he was also of the opinion, as Dr. Gray had expressed it, that the habit could not be easily broken up and that it was likely to return. In operating in cases of idiopathic epilepsy where no scar could be found he had never known it to do the patients harm. The operation in these cases was done on the principle of cerebral pressure. He had recently seen an old patient upon whom he had operated some twenty years ago, removing a large portion of the frontal bone with a quantity of brain tissue. It was interesting to know that there had never been any development of epilepsy, but the mental and moral degradation was complete.

Book Notices.

Diseases of the Eye. By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon to St. Thomas's Hospital, etc. Fourth American from the Fifth English Edition. With a Chapter on Examination for Color-perception, by William Thomson, M. D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1890. [Price, $2.]

This is a well-known and a valuable work. It was primarily intended for the use of students, and supplies their needs admirably, but it is far from being a mere quiz compend. On the contrary, it is as useful for the practitioner, or indeed more so. It does not presuppose the large amount of recondite knowledge to be present which seems to be assumed in some of our larger works, is not tedious from over-conciseness, and yet covers the more important parts of clinical ophthalmology.

A supplement is made to the present edition on the practical examination of railway employees as to color-blindness and acuteness of vision and hearing. This is well written, and contains good suggestions for those who may be called upon to make such examinations.

BOOKS AND PAMPHLETS RECEIVED.

Les microbes de la bouche. Par le Dr. Th. David, Directeur de l'école dentaire; chirurgien dentiste des Hôpitaux de Paris. Precédé d'une lettre-préface de M. L. Pasteur. Avec 113 figures en noir et en couleurs dans le texte. Paris: Félix Alcan, 1890. Pp. xv–302.

Memorial Sketches of Dr. Moses Gunn. By his Wife. With Extracts from his Letters and Eulogistic Tributes from his Colleagues and Friends. Chicago: W. T. Keener, 1890. Pp. xx–380.

Household Hygiene. By Mary Taylor Bissell, M. D. New York: N. D. C. Hodges, 1890. Pp. 83. [Fact and Theory Papers.]

A Manual of Weights and Measures. Including Principles of Metrology; the Weights and Measures now in Use; Weight and Volume and their Reciprocal Relations; Weighing and Measuring; Balances (Scales) and Weights; Measures of Capacity; Specific Weight and Specific Volume, etc. With Rules and Tables. By Oscar Oldberg, Pharm. D., etc. Third Edition, revised. Chicago: W. T. Keener, 1890. Pp. vi–250.

A Clinical Study of Diseases of the Kidneys, including Systematic Chemical Examination of Urine for Clinical Purposes, Systematic Microscopical Examination of Urinary Sediments, Systematic Application of Urinary Analysis to Diagnosis and Prognosis; Treatment. By Clifford Mitchell, A. M., M. D. Chicago: W. T. Keener, 1890. Pp. xii–431.

A Laboratory Manual of Chemistry, Medical and Pharmaceutical, containing Experiments and Practical Lessons in Inorganic Synthetical Work; Formulæ for over Three Hundred Preparations, with Explanatory Notes; Examples in Quantitative Determinations and the Valuation of Drugs; and Short Systematic Courses in Qualitative Analysis and in the Examination of Urine. By Oscar Oldberg, Pharm. D., etc., and John H. Long, Sc. D., etc. With Original Illustrations. Second Edition, revised and enlarged. Chicago: W. T. Keener, 1890. Pp. 3 to 457.

The Patients' Record, for the Use of Physicians and Nurses. Compiled by Agnes S. Brennan. New York: G. P. Putnam's Sons, 1890. [Price, $2.]

Lectures at St. Peter's (in 1890) on Some Urinary Disorders connected with the Bladder, Prostate, and Urethra. By Reginald Harrison, F. R. C. S., etc. London: Baillière, Tindall, & Cox, 1890. Pp. 5 to 81.

Differentiation in Rheumatic Diseases (so called). (Read before the Bristol Medico-chirurgical Association, 14th of May, 1890.) By Hugh Lane, L. R. C. P., etc. [Reprinted from the *Lancet.*]

The Time-relations of Mental Phenomena. By Joseph Jastrow, Professor of Psychology at the University of Wisconsin. New York: N. D. C. Hodges, 1890. Pp. 60. [Fact and Theory Papers.]

Chloroform and the Hyderabad Commission. The President's Address delivered at the Annual Meeting of the Southwestern State Medical Society of Ohio, Cincinnati, October 16, 1890. By J. C. Reeve, M. D., Dayton. [Reprinted from the *Medical News.*]

Report on Surgery. By W. L. Rodman, M. D., Louisville. [Reprinted from the *American Practitioner and News.*]

The Sensation of Itching. By Edward Bennet Bronson, M. D. [Reprinted from the *Medical Record.*]

The Rotary Element in Lateral Curvature of the Spine. By A. B. Judson, M. D. [Reprinted from the *Medical Record.*]

The Relation of Bacteria to Practical Surgery. The Address in Surgery delivered before the Medical Society of the State of Pennsylvania, June 4, 1890. By John B. Roberts, A. M., M. D.

Report of Three Hundred Cases of Intubation of the Larynx. By F. E. Waxham, M. D. [Reprinted from the *North American Practitioner.*]

Treatment of Scarlet Fever and its Complications. By J. Henry Fruitnight, A. M., M. D., New York. [Reprinted from the *Archives of Pædiatrics.*]

Report of Two Cases of Uterine Fibroid and One of Stricture of the Rectum, treated by Electrolysis and Surgically. Also Presentation of Specimen of Dermoid Cyst. By J. B. Greene, M. D., Mishawaka, Ind. (Read before the Chicago Medical Society.)

A Regional Study of Tumors. By W. L. Rodman, M. D., Louisville. [Reprinted from the *American Practitioner and News.*]

Rotura espontanea de la matriz al cuarto mes de gestación. Por el Doctor Eduardo F. Pla. [Publicado en la *Crónica Medico-quirúrgica de la Habana.*]

Seventeenth Annual Report of the Maternity Hospital, Philadelphia.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Semi-annual Session, held at Hagerstown, Md., November, 1889. Ninety-second Annual Session, held at Baltimore, Md., April, 1890.

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac, for the Biennial Period ending June 30, 1890.

Twenty-first Annual Report of the State Board of Health of Massachusetts.

Lehrbuch der allgemeinen und speciellen pathologischen Anatomie für Aerzte und Studirende. Von Dr. Ernst Ziegler, Professor der pathologischen Anatomie und der allgemeinen Pathologie an der Universität Freiburg in Baden. Zwei Bände. Sechste neu bearbeitete Auflage. Zweiter Band. Specielle pathologische Anatomie. Mit 435 theils schwarzen, theils farbigen Abbildungen. Jena: Gustav Fischer, 1890. Pp. xii–3 to 1024. [Preis, Mrk. 16.]

Rumination in Man. By Max Einhorn, M. D., New York. [Reprinted from the *Medical Record.*]

A New Method of obtaining Small Quantities of Stomach Contents for Diagnostic Purposes. By Max Einhorn, M. D., New York. [Reprinted from the *Medical Record.*]

One Hundred Consecutive Cases of Labor at the Maryland Maternity. With a Description of the Methods practiced in that Institution. By George H. Rohé, M. D., Director, and W. J. Todd, M. D., Resident

Physician. [Reprinted from the *Transactions of the Medical and Chirurgical Faculty of the State of Maryland.*]

The Early Operation for Hare-lip, with the Report of a Case, Illustrations, etc. By Thomas H. Manley, A. M., M. D. [Reprinted from the *Medical Age.*]

Amputation of Roots as a Radical Cure in Chronic Alveolar Abscess; in Pyorrhœa Alveolaris complicated by Alveolar Abscess. By M. L. Rhein, M. D., D. D. S., New York. [Reprinted from the *Proceedings of the American Dental Association.*]

Two Cases of Fractured Skull. Recovery in One; Death from Chloroform in the Other. By Thomas H. Manley, M. D., New York. [Reprinted from the *Medical News.*]

Rupture of an Ectopic Sac in the Sixth Month of Pregnancy. Abdominal Section and Recovery. By Dr. James Moran and Dr. T. H. Manley, New York.

The Treatment of Contracted Bladder by Hot-water Dilatation. By I. S. Stone, M. D., Washington, D. C. [Reprinted from the *Transactions of the Southern Surgical and Gynæcological Association.*]

The Diagnosis of Pelvic Disease, or when to operate. By I. S. Stone, M. D., Washington, D. C. [Reprinted from *Practice.*]

Some Considerations in regard to Acute Obstructive Diseases of the Lungs. By Andrew H. Smith, A. M., M. D., New York. [Reprinted from the *American Journal of the Medical Sciences.*]

Fourth Annual Report of the Training School for Nurses connected with the Post-graduate Medical School and Hospital, May 31, 1890.

Medical Missionaries in Relation to the Medical Profession. Read at the Meeting of the China Medical Missionary Association, held at Shanghai, May 19–22, 1890. By J. G. Kerr, M. D., Canton, China.

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for December 5th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM— Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Nov. 29.	1,651,798	654	..	..	..	..	..	..	..	..	..	..	....
Chicago, Ill	Nov. 29.	1,100,000	323	..	..	..	..	..	..	16	4	23	1	6
Philadelphia, Pa	Nov. 22.	1,064,277	359	..	..	..	..	..	..	4	9	14	..	...
Brooklyn, N. Y.	Nov. 29.	853,945	363	..	..	..	..	..	..	5	10	16	1	5
St. Louis, Mo	Nov. 29.	460,000	.....	..	..	..	..	..	..	3	2	2	..	....
Boston, Mass	Nov. 29.	446,507	159	..	..	..	..	..	..	5	..	2	..	....
Cincinnati, Ohio	Nov. 28.	325,000	128	..	..	..	..	..	..	3	..	16	..	....
Cleveland, Ohio	Nov. 15.	257,774	70	..	..	..	..	..	..	1	..	6	..	....
Cleveland, Ohio	Nov. 22.	257,774	67	..	..	..	..	..	..	4	1	7	..	....
Detroit, Mich	Nov. 15.	250,000	57	..	..	..	..	..	..	..	1	5	..	. .
Detroit, Mich	Nov. 22.	250,000	66	..	..	..	..	..	..	..	..	13	..	....
Pittsburgh, Pa	Nov. 22.	240,000	80	..	..	..	..	..	..	8	..	13	..	....
Milwaukee, Wis	Nov. 29.	220,000	60	..	..	..	..	..	..	2	..	11	..	....
Newark, N. J	Nov. 29.	184,760	69	..	..	..	..	..	..	1	..	4	..	....
Minneapolis, Minn	Nov. 29.	164,738	39	..	..	..	..	..	..	3	..	5	..	....
Providence, R. I	Nov. 29.	132,048	37	..	..	..	..	..	..	..	..	2	..	....
Richmond, Va	Nov. 22.	100,000	30	..	..	..	..	..	..	2	..	4	..	....
Toledo, Ohio	Nov. 28.	82,652	20	..	..	..	..	..	..	1	..	4	..	....
Nashville, Tenn	Nov. 29.	76,309	35	..	..	..	..	..	..	2	..	..	..	....
Fall River, Mass	Nov. 29.	75,000	24	..	..	..	..	..	..	2	..	1	..	....
Charleston, S. C	Nov. 22.	60,145	34	..	..	..	..	..	..	1	..	..	..	....
Charleston, S. C	Nov. 29.	60,145	45	..	..	..	..	..	..	1	.	1	1	....
Portland, Me	Nov. 29.	42.000	9	..	..	..	..	..	..	..	..	..	..	....
Rochester, N. Y	Nov. 28.	38.327	31	..	..	..	..	..	..	..	1	2	..	....
Binghamton, N. Y	Nov. 29.	35,000	13	..	..	..	..	..	..	..	..	1	..	....
Yonkers, N. Y	Nov. 21.	32,000	11	..	..	..	..	..	..	..	..	1	1	....
Yonkers, N. Y	Nov. 28.	32,000	16	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I	Nov. 6.	20,000	4	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I	Nov. 13.	20,000	5	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I	Nov. 20.	20,000	10	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal	Nov. 15.	16,000	4	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal	Nov. 22.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla	Nov. 22.	15,000	4	..	..	..	..	..	..	..	..	..	..	....

Observation of Koch's Treatment of Tuberculosis.—In accordance with a resolution of the Dauphin County (Pa.) Medical Society, Dr. E. H. Coover, Dr. Hugh Hamilton, and Dr. Thomas J. Dunott have been appointed a committee to visit Philadelphia, at the proper time, and inspect the method of employing Koch's remedy for tuberculosis as used in the hospitals there.

Syphilitic Infection from a Bite.—"A patient was recently shown to the Berlin Medical Society who was said to have contracted syphilis from the bite of a man. The bite was inflicted on the lip, and the wound healed in two or three days, but in six weeks it reopened and the lip became greatly swollen. Five weeks later there was an ulcer on the inner surface of the lip with great swelling and induration round about; the submaxillary and cervical glands were also much enlarged. After some time a typical syphilitic eruption made its appearance. By the use of mercurial frictions the swelling both of the lips and of the glands was considerably reduced."—*British Medical Journal.*

ANSWERS TO CORRESPONDENTS.

No. 337.—Approval of the diploma by the Board of Regents of the University of the State of New York, and subsequent registration of it at the County Clerk's office.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

THE NEW YORK MEDICAL JOURNAL, December 20, 1890.

Original Communications.

COMPLETE AND PERMANENT RECOVERY BY JEJUNO-ILEOSTOMY WITH SENN'S BONE PLATES

IN INTESTINAL OBSTRUCTION DUE TO INTUSSUSCEPTION AND SLOUGHING OF THE INTUSSUSCEPTUM.

By THOMAS H. RUSSELL, M. D.,
PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS, YALE UNIVERSITY, AND SURGEON TO THE CONNECTICUT STATE HOSPITAL.

On August 16, 1889, I was summoned to visit a boy, fifteen years of age, living on a farm in Montville, Conn. I found that he was suffering from very severe chronic obstruction (stenosis) of the small intestine.

The history of the case was as follows:

Until October 2, 1888, he had been strong and in perfect ealth, but on that day, while wrestling, was attacked by an xtremely acute pain in his abdomen, quickly followed by severe omiting and obstinate constipation, which persisted for five ays. On the fifth or sixth day his bowels were moved, and the omiting became less severe. During the next few weeks the mesis was less frequent, the pain became intermittent, although evere, and the constipation gradually changed to diarrhœa.

On November 1st (or soon after) a soft, fleshy mass was no- iced in one of his stools.

During the ten months preceding my visit and operation he ad been under the care of Dr. Smith and Dr. Bishop, of Nor- ich, Dr. Matthewson, of Montville, and others.

During these ten months he was confined to bed much of he time, and there were occasional attacks of vomiting and om three to seven light-colored liquid stools daily, but free om blood. The abdomen was much distended and tympa- itic; his appetite was poor and his tongue coated.

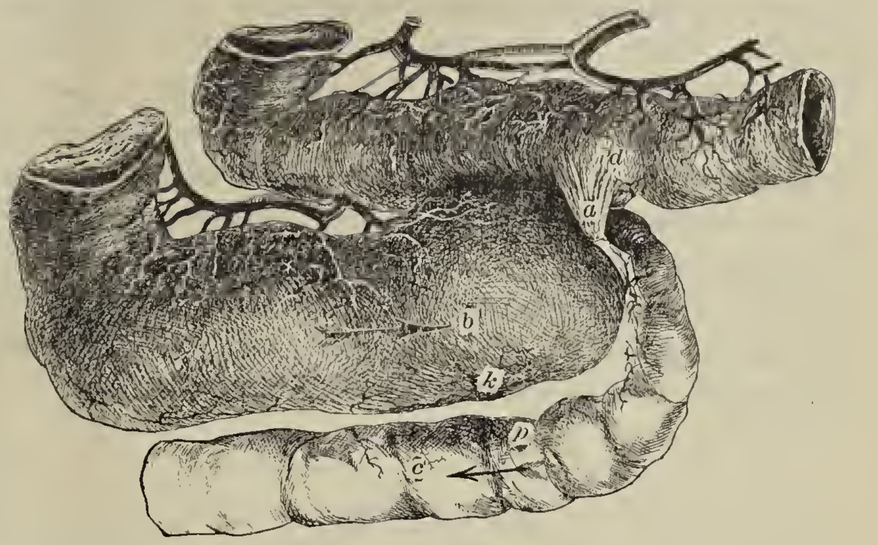
He became much emaciated and had night sweats, but no evation of temperature. During these ten months he suffered om severe attacks of abdominal pain, recurring about every venty to forty minutes night and day, and lasting from three five minutes. Each of these attacks of pain was preceded r accompanied by such violent intestinal peristalsis that the ntour of the intestine formed very prominent visible ridges the abdominal wall.

In each attack the severe pain commenced after the violent ristalsis had lasted one or two minutes, and disappeared sud- nly when, three to five minutes later, there was a loud sound of gas and liquid being forced through a small orifice. Im- ediately afterward the pain and peristalsis would cease, and e patient become comfortable.

The pain was sometimes above the umbilicus and at other nes below or to the right or left, and not confined to any e point. All his symptoms were gradually becoming more vere. During my visit on August 16, 1889, I was able to ob- rve a number of these attacks, and it appeared probable (as e laparotomy next day proved true) that they were due to arly complete obstruction in the small intestine. The regu- ly recurring, violent, and painful peristalsis was the effort of e intestine to force its contents through a very small aperture. parotomy being indicated, I operated on the following day ugust 17, 1889), assisted by Dr. Smith, of Norwich, Dr. Mat- ewson, of Montville, and Dr. R. S. Bradley, of New Haven.

The incision extended from the umbilicus to the pubes. I und it impossible to locate the obstruction without removing e small intestines from the abdomen, and, while doing so, otected them with napkins wrung out of hot Thiersch's solution. The obstruction was found at a point near the junction of the upper and middle thirds of the small intestine.

As shown in the accompanying illustration, the small intestine, *b* to *c*, was so extremely contracted at *a* that its diameter was only about a quarter of an inch, and at that point it was firmly bound down by a strong old band of adhesion, *a*, to the wall of an adjacent loop of intestine, *d*.



All of the portion of intestine *b* above the obstruction *a* was distended to about three times its normal caliber and filled with gas and liquid fæces. All of the portion of intestine *c* below the obstruction was empty, contracted, and flaccid.

The obstruction was evidently an old one, and it was plainly impossible to restore the caliber of the bowel at that point. The best plan was evidently to establish an intestinal anastomosis, as suggested by Professor Senn. After locating the obstruction, it was found impossible to return the rest of the intestine into the abdomen, owing to its distention above the obstruction.

I therefore made a linear incision, an inch and a half long, at *k* above the obstruction, and emptied all of the contents of the bowel, consisting of about a quart of yellow liquid fæces and a large amount of gas, into a pan. The intestine was then easily replaced within the abdomen. A Senn's perforated decalcified-bone plate was then introduced through the incision in the bowel at *k*, and another bone plate was introduced below the obstruction through an incision at *p*. The bone plates were approximated after scarifying the serous surfaces, and about twelve Lembert sutures were introduced around the circumference of the plates. The intestine was then cleansed and the abdomen flushed with hot Thiersch's solution, and the abdomen closed.

His recovery was rapid, perfect, and permanent. Although his temperature was taken every two to four hours for eight days, it only once went above normal, and then only transiently touched 100·2° on the second day. I did not visit him after the sixth day, the nurse was discharged on the eighth, the patient sat up about the tenth, and was down stairs about the sixteenth or eighteenth day. Dr. Smith made a few visits afterward. The patient had a large normal stool five days after the operation, and his bowels moved regularly afterward. All stools were examined for traces of the bone plates. Nine days after the operation the remains of a bone plate (probably the distal one) were found in one of the stools. It was of only about a quarter of the thickness, half of the width, and two thirds of the length of the original plate, and was so soft as to require careful handling. A few days later, barely perceptible remnants of the other plate were evacuated, and none subsequently. From that time he quickly and steadily improved in health in every respect, and resumed his work on the farm. It is now *fifteen months* since the operation, and he is in every way enjoying good health.

The boy is strong and able to do ordinary work. There is every indication that his recovery is absolutely complete and permanent. I believe that this is the most successful case of the kind thus far on record. It seems evident that the commencement of his disease on October 2, 1888, was an intussusception (at point A in the diagram), that the soft, fleshy mass passed in one of his stools about a month later was the intussusceptum, which had sloughed out, and that the subsequent stenosis and adhesions were results of that process.

My experience in this case and in another, in which I performed gastro-enterostomy with decalcified-bone plates for cancerous stenosis of the pylorus, convinces me that the bone plates are much to be preferred to the various catgut substitutes (rings and mats) and all other substitutes which have been suggested. They are admirably adapted for the purpose and need no improvement.

REPORT OF
A CASE OF INTESTINAL ANASTOMOSIS FOR FÆCAL FISTULA,
*WITH REMARKS.**

By CHARLES H. RICHMOND, M. D.,
LIVONIA, N. Y.

On the 1st of January, 1890, I was called to see W. W. R., of Honeoye, N. Y., in consultation with Dr. Green and Dr. Wilbur. The patient was forty-six or forty-seven years old, of slight build, considerably emaciated, showed spells of elevated temperature, and had enlargement of some of the glands of the right groin, with tenderness of the adjacent muscles. Rectal examination elicited no pelvic bunches. The patient had recently recovered from an attack of peritonitis and was still in bed part of the time. Some ten or twelve years ago he had peritonitis, followed by venous thrombosis of the right limb, or phlegmasia alba dolens. He has had more or less trouble with the limb since.

About the 1st of June last, six months after my visit, Mr. R. called at my office in Livonia on his way to Rochester to consult an eminent practitioner. He was markedly thin and anæmic, complained of lameness and distress in the right iliac region, increased by pressure on the back, and had a temperature of 100°. The diagnosis seemed to rest between disease of the appendix and psoas abscess, with the probabilities, in view of the history of the case, of the former. At that time I advised an exploratory incision with the object of removal of the appendix if found diseased, or the evacuation of an abscess if already existing; but, there being no concurrence of opinion, simple measures only were resorted to.

During the latter part of July an increase in the tenderness of the parts about the groin and hip joint, with elevation of temperature, took place, and on the 8th of August, in the presence of Dr. Wilbur and Dr. Green, I opened an abscess which had become manifest on the right thigh, a little below the hip joint and on the outer aspect of the limb. It contained pus, gas, and fæcal matter, the odor of which was the very prince of stinks. The nature of the trouble was now positively known, but, the patient's condition being bad, it was thought best to delay further operative procedure until he might recuperate and at the same time be allowed time for the possibility o spontaneous closure of the fistula.

A fæcal fistula occurring at the head of the colon i much more disagreeable and debilitating than an artificia anus at the sigmoid flexure, for the contents of the gut ar thinner, causing a more constant discharge with consequen local irritation, and the tract of the fistula, with its pus secreting walls, is a source of debility and septicæmia.

I saw the patient two or three times within the following three weeks, during which time fæcal matter continued to pour out of the orifice of the abscess in abundance, a smaller portion passing *per rectum*, the patient's condition meanwhile growing no better, except in a fall of temperature to nearly the normal point since the opening of the abscess. I then began to think seriously of an abdomina operation. After giving the matter some thought and laying the case before some medical men, among whom wa Dr. G. H. Bosley, of New York, I communicated with Dr Wilbur, suggesting the propriety of some procedure. In the mean time Dr. Frank Becker, of New York, had seen the patient and advised an operation, but I do not know upon what plan. The family, after a time, felt that the only hope for life was in having the fistula closed, and the patient preferred death to an open fistula, which, notwithstanding frequent cleansings, was exceedingly offensive Dr. Wilbur and Dr. Green concurring, arrangements for an operation were finally made.

Operations for the closure of fæcal fistulæ have not, as a rule, succeeded well. Laying aside the difficulties in working through adhesions, a closure of the gut is seldom effective, while the opening of the tract of the fistula or into the abscess necessarily exposes the abdominal cavity to the dangers of sepsis. I therefore determined not to attempt to find the point of origin of the fistula, but to divide the gut on each side, close the respective ends, and unite the portions of intestine freed from the adherent mass, leaving the latter, together with the tract of the fistula or abscess cavity, undisturbed.

On the 11th of September, five weeks after the abscess was opened, ably assisted by Dr. Wilbur and Dr. Green of Honeoye Dr. Goodrich of Avon, Dr. Guinan of Lima, and Dr. Starr and Dr. Foster of Rochester, I opened the abdominal cavity at the outer border of the right rectus muscle, being careful not to carry the incision much below a point intersecting a line drawn from the umbilicus to the anterior superior spinous process o the ilium, lest the abscess might be inadvertently opened; but as no adhesions were found between the colon and the anterior abdominal walls, the opening was extended downward to within an inch and a half of Poupart's ligament, about five inches in extent, in order to allow plenty of room for work. The cæcum and lower end of the ileum were adherent by their inferior and posterior aspect to the iliac fascia, the upper surface being free A foot or more was thus adherent. The appendix was not found and was presumably the seat of the trouble, having been lost or inclosed within the abscess. The extent of the abscess and exact point of the fistulous opening in the intestine could not be determined by sight or palpation, necessitating the elimination of almost the entire adherent portion—about a foot—including the ileo-cæcal valve. The ends of the divided ascending colon were closed with Lembert's suture of fine silk, the peritoneal surfaces being in apposition, and the ileum, divided some two or three inches above the valve, was treated in the same way. Flat sponges were placed beneath the gut while it was being operated upon, the contents of the intestine having been previously pressed away and held back by coarse ligatures tied in a single knot for the purpose of being afterward removed. While suturing the ileum it was found that one of the ends of the divided colon leaked, whereupon the end was resutured and the abdominal cavity cleansed. The ileum and colon were then joined by their lateral surfaces by means of Abbe's catgut rings, which I had prepared according to his directions, the suturing being done with fine silk. There was no leakage at any point, and the apposition of the margins of the openings seemed perfect. The parts were cleansed, the abdominal cavity was rinsed, the intestines were replaced (they had been kept warm by means of sponges wet with a warm saline solution), and the walls were closed and dressed in the usual way, the entire operation lasting about an hour and forty-five minutes.

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* Read at the meeting of the Ontario County Medical Society, held at Canandaigua, October 14, 1890.

Every antiseptic precaution was observed throughout, yet it seems difficult in such procedures to prevent infection of the peritonæum to some extent, for, in making the openings, the fingers may become contaminated, and the process of suturing endangers the infection of the silk. The fingers may be cleansed, but a thorough sponging of the sutures with an antiseptic solution may fail to neutralize all the germs within or beneath the fibers if they have peradventure penetrated the mucous lining of the intestine. The system undoubtedly, in ordinary circumstances, is capable of resisting a certain degree of virulency, but in certain low states this power is measurably lost, so that death may result from combined shock and septic inflammation, provided there is even slight contamination. Dr. Wilbur informs me that this patient died of peritonitis and shock forty hours after the completion of the operation. There was no autopsy.

The surface temperature never came up to normal. About twenty-four hours after the completion of the operation the rectal temperature had risen to 101°, and twelve hours later to 104°. The pulse, when the patient was put to bed, was 130 a minute, and became somewhat less frequent during the fifteen hours I remained with him. Vomiting was occasional after the operation, and more or less pain was experienced. Tympanites was not marked. Patients frequently recover after as much evidence of local trouble as this patient showed, and there may justly arise a question as to the existence of actual septic peritonitis.

I have been uncertain as to the source of the sepsis, if, indeed, it was an important factor. It was possibly due to insufficient cleansing of the abdominal cavity after the leakage in the colon took place, although at the time it seemed sufficient. The inside of the ends of the cut intestines was sponged out with a 1-to-2,000 bichloride solution, and after the union was completed the stitched parts were well cleansed. There was more exposure of the intestines than was desirable, made unavoidable on account of flatus.

Here let me say, from a considerable experience in abdominal work of one sort and another, that I am convinced that an operation for forming an anastomosis, or in peritonitis, or in appendicitis, is more difficult than an uncomplicated ovariotomy, for the reason that the intestines are always bulging up in the way, and that, with the tense abdominal walls, makes it more difficult to get a nice adaptation of peritoneal edges when the wound is closed. Notwithstanding the instructions to keep the intestines, except the part operated upon, within the abdominal walls, it will be found in most cases impossible to do so, and there is consequently an increased risk from exposure and manipulation.

Pus only came from the fistula after the operation, and at death a rectal discharge of fæces was found to have taken place.

The principle originated by Senn in the lateral anastomosis was followed. Its advantages over end-to-end union are obvious, not only in affording greater security against leakage, but also in being stronger and more rapidly accomplished. Intestinal anastomosis has been successfully performed several times in malignant disease, affording the patient an increased length of rope, and has been successfully performed by Abbe for fæcal fistula; but in no instance, so far as I have seen, has the procedure followed by myself been adopted or suggested. Although this case terminated fatally, owing in great part to the desperate condition of the patient, who was unable to resist the influence of some unknown sepsis, the principle of leaving the fistula itself untouched and uniting the intestine independently seems entirely feasible—indeed, the only course to follow in similar cases.

In cases in which the patient's condition is not too low there is every reason for hope of success; but there is scarcely a procedure which requires greater care and watchfulness on the part of the operator throughout than one for intestinal anastomosis. The surgeon can not always select his cases. He sometimes must take a great risk of failure for the sake of giving his patient the only remaining chance. Moreover, persons will seldom submit to an operation so long as there is any other chance for life.

On account of these things this operation may never present as favorable statistics as some other abdominal operations, but it is none the less legitimate.

(The method of using the rings and plates in forming the intestinal union was then demonstrated.)

A NEW OPERATION FOR
DEVIATION OF THE NASAL SEPTUM,
*WITH A REPORT OF CASES.**

By MORRIS J. ASCH, M. D.

The distress occasioned by a permanently occluded nostril in the shape of mouth-breathing and the various complications that accompany this condition is brought so often to the notice of the nasal surgeon that any operation that will easily remedy the difficulty is worthy of notice. The pathology and symptoms of a deviated septum have been so often described that I will not occupy your time with them, but content myself with calling attention to the operative procedure by which I remedy the defect. It is particularly adapted to those cases in which there is a deflection with increased length of the septum, and where there is adhesion to the inferior turbinated body; its great advantage being in its simplicity and in its easy and rapid performance—that it involves no loss of substance and entails but little annoyance to the patient after the operation. I have found the operation to be perfectly satisfactory, permanently relieving the obstruction in all cases; only those in which there existed deflection of the bony septum discovered after the correction of the cartilaginous deformity required any further treatment. In one case only was there any hæmorrhage of a severe character, which was easily checked; and in one case—not among those here reported—there remained for two or three years a small perforation which has since healed.

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* Read before the American Laryngological Association at its twelfth annual congress.

In all of these cases the deviation of the septum was toward the left, a fact in accord with the observation of most writers.

The instruments I employ in this operation are—

1. A pair of strong cartilage scissors, one blade thick and blunt for introduction into the obstructed nostril; the other, the cutting blade, of a curved wedge-shape, the shanks curved outward so as to admit of closing without interfering with the columna. The handles are of steel and curved, like those of a dental forceps (Fig. 1).

2. A curved gouge for breaking up any adhesions that may exist between the septum and turbinated body (Fig. 2).

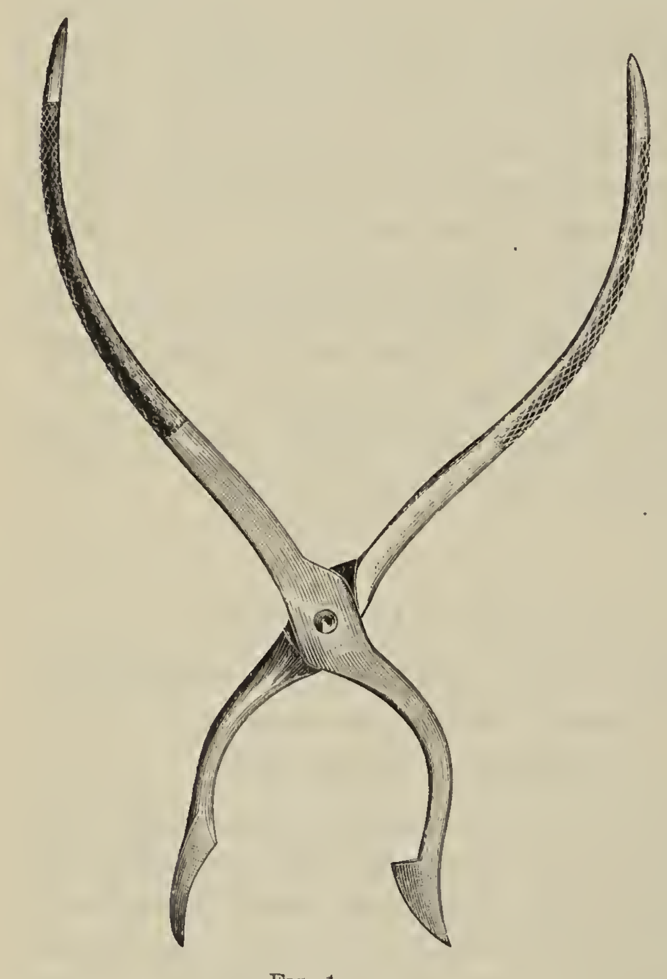

FIG. 1.

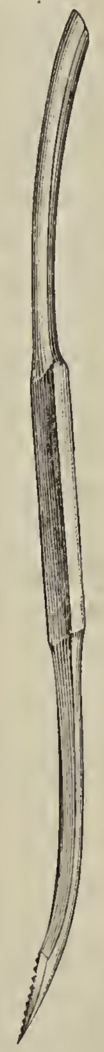

FIG. 2.

3. An Adams forceps, or one with stout parallel blades.

4. A triangular splint of tin, cut to adapt itself to the cartilage of the section. Formerly I used a splint of a more elaborate character, such as I show you here (Fig. 3); but it had the objection of being always in sight and I gave up its use, although in other respects it proved perfectly satisfactory. If the patient has a good deal of nerve, the operation may be performed with the aid of cocaine; but, as a rule, it is best to use ether. Before the operation the nostrils are to be well washed out with a disinfecting solution, such as listerine or, what I have been accustomed to use, Dobell's solution with the addition of thymol and eucalyptol. The patient then having been etherized, the adhesions between the septum and turbinated body, when such exist, are broken up by the use of the curved gouge. The blunt blade of the scissors is inserted into the obstructed nostril, and the cutting blade into the other; a crucial incision is then made as near as possible at right angles at the point of greatest convexity. The forefinger is then inserted into the obstructed nostril; the segments made by the incision are pushed into the opposite one, and the pressure continued until they are broken at their base and the resiliency of the septum destroyed. On this point depends the success of the operation, for, unless the fracture of these segments is assured, the resiliency of the cartilage will not be overcome and the operation will fail. The septum is then to be straightened with the Adams or other strong forceps, and the hæmorrhage checked before proceeding further, which is usually accomplished by a spray of ice-water, though sometimes tamponing may be required. The nostril having been cleaned, the straightened septum is then held in position by the tin splint previously wrapped with absorbent cotton moistened in a solution of bichloride of mercury of 1 to 5,000, and the nostril packed with gauze or absorbent cotton moistened with the same. The tamponing must be thoroughly done or hæmorrhage will certainly recur. I usually introduce a pledget of gauze or cotton, to which a ligature is attached, as far into the nostril as is possible, leaving the string hanging out, and pack the moistened pledgets firmly upon this. The splint and tampon is allowed to remain undisturbed for four days, when they are removed and the parts cleansed with a disinfecting solution; the splint and tampon are then reapplied, the parts being straightened, if necessary, with the forceps. This is repeated two or three times a week for three weeks, by which time the parts have become permanently fixed in their improved position; but it may require at least two weeks more before the parts are healed and the patient breathes through an unobstructed nostril. It sometimes happens that posteriorly to the cartilaginous deviation a bony one exists. This can then be easily remedied by the electro-trephine or saw. The cases which I report here were all, with one exception, operated on at the New York Eye and Ear Infirmary, and the after-treatment was carried out by Assistant Surgeon Dr. Emil Mayer, to whom I am indebted for their report. I have delayed presenting the report of this operation to you until I had assured myself that its results would prove satisfactory and permanent; but now that the operation has stood the test of time, I feel that I am justified in doing so. The operation is simple and easy, requires but a few minutes for its performance,

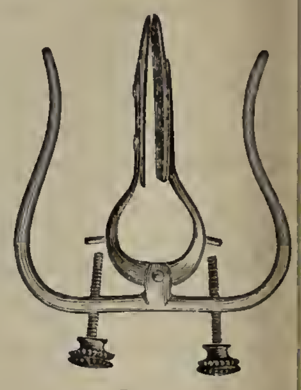

FIG. 3.

involves no loss of substance, and the operator is not embarrassed in his work by the bleeding—a practical point which I am sure all who are familiar with nasal surgery will appreciate. Of the cases reported, the incisions in the first two were made by the bistoury instead of the cartilage scissors, but the principle of the crucial incisions with fracture and tampon was the same.

Case I.—A. W., female, aged eleven, patient of Dr. Mayer's, was brought to New York for treatment for nasal stenosis, said to be due to a fall in infancy. The cartilaginous septum is deviated to the left near the orifice of the nostril, which is completely obstructed, no air passing. She is a mouth-breather, and the voice has a nasal twang. Operation performed under ether on September 19, 1883. The crucial incisions were made with a knife through the cartilage, the fragments fractured, and the nostrils plugged with antiseptic cotton, which was removed on the third day. There had been no bleeding and no rise of temperature. After washing out the nostril, the left side was repacked, the parts being kept straight with the Adams forceps. On September 30th plugs removed; patient breathes freely through both nostrils. The straightening forceps are introduced tri-weekly, and on October 24th patient is discharged cured.

Case II.—Louise H., aged seventeen. Patient of Throat Clinic, New York Eye and Ear Infirmary. The left nostril is completely obstructed by a deviated cartilaginous septum, which is firmly adherent to the inferior turbinated body of the same side. Operation performed at infirmary, September 28, 1884, under ether. The adhesions were broken up, and the crucial incisions and fracture accomplished. The septum straightened, and held in position by a specially devised splint (Fig. 3). This consisted of an external, lyre-shaped frame, to the center of which, on a hinged joint, two plaques of hard rubber, of a shape similar to the triangular cartilage, were attached. The plaques, being adjusted to their place in either nostril, were fastened in their position by the screw passing through the outer frame, and the nostrils afterward tamponed. There was no constitutional disturbance. In three weeks after tri-weekly applications of the straightening forceps the patient was discharged cured.

Case III.—Philip L., aged thirteen, came to the clinic of the New York Eye and Ear Infirmary with nasal obstruction; is a mouth-breather. Hearing defective in left ear; is dull and apathetic; the cartilaginous septum is deviated to the left and is firmly adherent to the inferior turbinated body, the greatest convexity being an inch and a quarter from the nasal orifice.

The operation was performed under ether at the infirmary, December 1, 1888. The adhesions having been broken up by the gouge, the cartilage was incised with the cartilage seissors, the segments fractured, and splint and tampon applied. After the cartilage was straightened, a long, bony obstruction was found to exist behind it, which was afterward removed by means of the electro-trephine. This was finally accomplished in six weeks, and on February 15th the patient was discharged cured, breathing freely with closed mouth, and hearing greatly improved. A recent report from this case shows the improvement to be permanent.

Case IV.—Fannie M., aged sixteen, came to the clinic of the New York Eye and Ear Infirmary complaining of nasal obstruction and deformity, the result of violence when three years old. Examination shows the left nostril to be entirely occluded by a deviated septum, the tip of the nose being bent to the right. She is more anxious to be relieved of the deformity than of the obstruction. The operation was undertaken with the view of curing both. Operation at infirmary, December 22, 1888, under ether. Crucial incisions, fracture, splint, and tampons. After straightening the septum, a strip of rubber plaster was applied to the tip of the nose, and traction made by fastening the end to the left cheek. The traction was faithfully kept up for some weeks after the patency of the nostril was re-established, and when seen on May 4, 1890, by Dr. Mayer, the deformity had entirely disappeared.

Case V.—Julius R., aged sixteen; clinic of the Manhattan Eye and Ear Infirmary. Operation, under ether, May 22, 1889. Operation and after-treatment as in the other cases. Discharged cured on June 15, 1889.

Case VI.—B. R., male, aged seventeen, referred to Throat Clinic of New York Eye and Ear Infirmary by Dr. Rupp, surgeon in the Ear Department. The patient is entirely deaf in left ear. Left nostril completely occluded. Operation, under ether, February 8, 1890. Same procedure as in previous cases, the resulting hæmorrhage, however, being more than ordinary. During the night succeeding the operation his breathing was alarmingly interfered with during sleep. On being awakened by the nurse, he was found to be bleeding from the mouth, and large coagula were expelled from the pharynx. The tampons were removed, the nose cleansed, and the bleeding checked by ice, after which the splint and tampon were replaced. On the 7th hæmorrhage recurred during the night, but was checked by ice. On the 15th he went to his home, when bleeding again occurred, which was controlled by my assistant, who was sent for. After this there was no further trouble, and the regular after-treatment was carried out. On March 20, 1890, Dr. Rupp reports marked improvement in the hearing, and on April 30th the patient reports that he breathes freely through the formerly obstructed nostril.

A NEW LOCAL THERAPY OF TUBERCULOSIS PULMONALIS.

By HUGO J. LOEBINGER, M. D.

Never before has the question concerning the curability of consumption possessed more intense interest than at the present time, when scientists of all nations are striving to solve the problem of the cure of not simply pulmonary tuberculosis, but tuberculosis generally; and it almost seems as if its realization were at hand.

The reason for this general emulation lies in the fact that since Koch's discovery of the *Bacillus tuberculosis* our knowledge of the cause of the disease has become more comprehensive; and that, in particular, the study of the life-giving properties necessary to the existence of the bacillus, through the cultivation of pure specimens and after experiments upon animals, warrants the hope that its growth in the organism may be cut off—which the above-named scientist, Koch, is alleged to have already in a measure accomplished. At all events, we have learned, particularly since the latest investigation by Cornet, and others before him, to protect ourselves against them.

Another reason is the fact that Nature often effects a spontaneous cure of pulmonary consumption, if only in its first stages.

Attention is here called to the interesting records of post-mortem examinations at the Paris Morgue, published by Vibert, which treat of the sudden or violent death of numerous apparently healthy persons whose lungs, however, simply showed evidences of healed tuberculosis. Clinical experience has confirmed the partial curability of tuberculosis of the lungs and unconditionally recognizes this. Only with regard to the therapy is there a division of opinion, which runs in two channels. One theory is that of general therapeutics, which consists in the belief that it is better not to attack the *locus affectus* directly, but rather, by means of general regulations—such as good, even excessive, food, pure air, permanent sojourn in the open air, etc. —to effect, as it is asserted can be done, the patient's restoration. As an extreme measure, internal aid is given to act on the disease through the circulation of the blood, as, for instance, by the use of creasote, guaiacol, etc. Interpreted into the language of modern bacteriology, this means to rob the *Bacillus tuberculosis* of the soil which promotes its growth. These views are strengthened by the happy results attained in those institutions and establishments where such principles are strictly maintained. In Europe the most renowned of these are those of Dr. Driver, in Rippoldsgrün; of Dettweiler, in Frankenstein, Taunus; the Bremer's institute in Görbersdorf, etc. Of those institutions in the United States enjoying transatlantic reputation, Dr. Trudeau's Adirondack Cottage Sanitarium is the leading one.

Opposed to this theory are the more or less negative results of that therapy which has for its first principle the attack of the *locus affectus* directly—the local therapy. It is true that, since the failure of hot-air inhalation, etc., there exists among our physicians, as well as in the public mind, a certain amount of distrust of all so-called local cures for pulmonary consumption. Nevertheless, it must be conceded *a priori* that that point of view will be an ideal one with respect to lung therapeutics (including, also, general therapeutic regulations) which does not prohibit the local treatment of the diseased lung. This is therefore a surgical view of the question; precisely as a surgeon would not content himself with undertaking the treatment of a fungous inflammation of the knee joint simply with fresh air and nourishing food, nor even with a general contratuberculous cure, by means of inoculation, etc.

At the last International Medical Congress one of the greatest throat specialists of Europe, Professor Heryng, of Warsaw, most emphatically declared that no general contratuberculous cure should ever deter him, in cases where local therapeutics was available, from energetically employing the same; as in the larynx, for instance.

Overlooking the somewhat venturesome attempts to inject medicinal liquids through the thoracic wall into the lung (which practice has led to unfavorable results, with hæmoptysis, pleuritis, etc.), local therapy should be employed only by means of the natural channels of respiration. It has consisted, heretofore, merely in some form of inhalation. Effective inhalation has only been undertaken with real gases when it could be foreseen that the same would really reach the lung tissues through respiration.

The choice is, unfortunately, very limited, as the majority of gases are partly irrespirable—*i. e.*, they cause spasm of the glottis—partly irritating and toxic; wherefore the selection has been confined to the most natural and accessible of gases—viz., the atmosphere and its single constituents. Heated air has been resorted to, as the bacilli can not live in a certain degree of high temperature—as if it were possible for the lungs, a by no means unimportant part of the entire body, to, even for a moment, maintain a higher level of temperature than that of the body! The results, therefore, remained not only entirely negative, but it was also demonstrated experimentally by Mosso, of Turin, that even with inhalation at 320° F. the temperature in the trachea of a dog, with a body temperature of about 102° F. in the rectum, showed 100° F.; so rapid is the process of cooling in the air channels.

The several component parts of the air, oxygen and its modification ozone, and nitrogen and its modification azote, have been applied as inhalations in the treatment of pulmonary consumption. The former, it is well known, influences the blood-corpuscles, and thereon depends the entire change of matter. The inhalation of oxygen results in a more rapid diminution of oxidation stages. Whether this has a desirable influence on pulmonary consumption, in that an accelerated change with negative balance leads to a rapid end, is a question that can readily be answered. Ozone has undoubtedly (Liebreich) an eminently antizymic virtue; still it operates more intensely than oxygenium upon the blood-globules, being at the same time very irritating. Besides, through the operation of vegetable germs existing in the superior air-passages, it is restored to its original molecular composition. Rarefied oxygen, so-called nitrogen (or azote), though hindering the decay of the diseased organism (like a sojourn in a high climate where the air is thin and rarefied), yet, as regards its influence upon the process of the disease itself, seems to be without any direct effect in its cure.

Concerning the so-called vapor inhalations, medicaments dissolved in water—for example, creasote, carbol, etc.—it appears highly problematical whether the matter inhaled really reaches the lung tissues. Even should we not rest satisfied with inhalations of dispersed liquids, but resort to medicinal liquids really heated up to the boiling point, so that the matter would be transformed into vapor in the same proportion as when dissolved, the intended result seems questionable. The same applies to the spray inhalation lately recommended by Jahr, wherein heated air is intimately mingled with the dispersed atmosphere, so as to allow the atmospheric fluids to evaporate, a process not far different from the actual vapor inhalation. The latter, if applied rationally and for the purpose of respiration, commingled with cold air, is primarily exposed to becoming cool, which coolness in the trachea, as above shown, becomes excessive. And as, in consequence of the breathing process, there is continually present in the air-passages a large quantity of liquid, the point of satiety is more speedily reached. The vapor is rapidly condensed and falls again in drops.

Other mediums of solution—like alcohol, ether, chloroform, etc., the boiling point of which is much lower than that of water, and of which we may infer, therefore, that, as soon as they are transformed into gases, the same will be saved until reaching respiration in the lung tissues—are, because of their relative appearances, useless. At the same time, up to the present, creasote, for instance, has been the most desirable contratuberculous remedy, being easily soluble in alcohol or in ether, but soluble, however, only in 110 parts of hot water.

From the foregoing it is deduced that vapor inhalations do not penetrate into the lungs; thus they are advisable only in the treatment of diseased larynx, trachea, and bronchi. Indeed, in these cases there is no method or treatment that can displace this. But even with pure gas inhalation it is questionable whether the gases reach the *locus affectus.* Aside from the difference in the gases, the propelling motor of the inhalation is, practically, the respiratory movement; we know that not simply the diseased spot of the lungs remains in a state of inactivity, but also the neighboring organs, in consequence of relaxed tension, being extremely sore and painful, and therefore aiding but little in the respiratory movement, the result being that the healthy portions of the lungs are obliged to suck up more strongly the inhaled gases, and these, not being intended for them, cause irritation and often pernicious results. This physical fact is not changed by the use of compressed air or gases for inhalation.

How, then, is it possible to act with purely local effect upon the actual seat of disease in the lungs?

The primary requirement is the acknowledged one of first locating the seat of disease, then to circumvent the same after a thorough physical examination, not resting content, in consequence of the discovery of the bacilli found in the sputum, with the general diagnosis—tuberculosis pulmonalis. Proceed then to ascertain the form in which medicinal substances may be conducted direct to the diseased portion of the lung tissue and there remain, in order to discriminate between the inhaled gases (whose contact with the seat of disease must of necessity be transient) deposited for a certain length of time, so that not merely a transitory effect will have been attained. And this is in the form of powder! Can powder (or dust) be conveyed into the lungs?

Since Cornet's investigation, we know that the germ of the disease—the *Bacillus tuberculosis*—is conveyed into the lungs in the form of dust; therefore the remedy, in order to reach the seat of disease in the lung, must exist in this form. The dust of rooms and streets, daily inhaled, only in part remains in the superior air-passages, from there to be again expectorated; a portion penetrates into the lung-parenchyma, where, at autopsies, it is often met with, representing a portion of the pigment of the lung.

Who has not heard of the so-called anthracosis (coal lung), or pneumonokoniosis, and siderosis of persons following certain vocations? It is remarkable that here the inhaled dust—provided, of course, that the same is free from all infectious admixture—following a purely mechanical path, will cause, first slight, then more aggravated, lesions in the tissue, frequently resulting in chronic absorption of the lungs, and, being in the form of so-called fibrous induration, occasion cicatricial formations in the interstices of the tissue (viz., interalveolar, interbronchial, and subpleural), with consequent shrinkage.

That which is here characterized as a pathological phenomenon is that art of natural cure which seeks to eliminate and make innoxious the destructive micro-organisms by means of reconstruction of the connective tissue of the lungs, producing an actual cicatricial formation, taking the place of the decayed lung parenchyma, which often occurs spontaneously in pulmonary phthisis. Wherefore it is well to work upon this plan, indicated, as it were, by nature.

In insufflation of the lungs we make use of a compound powder whose basis for the purpose of mechanical action in the diseased tissue is calcium phosphide, which becomes an amorphous powder, insoluble in water, that, when deposited in the lung tissue, is also imbibed by the lymph cells, which, in turn, become migratory amœboid cells, carrying the powder through the interstitial tissue, and finally gaining a foothold in the filter apparatus of the large bronchial lymphatic glands.

It naturally follows that a portion of the calcium phosphate, mingling with the albumin of the necrosed tissue, which possesses everywhere in the body a well-known chemical affinity for calcium, becomes chemically united with it, representing calcined lime in the cheesy portions. Upon this premise it has often been given internally for scrofula and tuberculosis, and also frequently applied externally in cases of tuberculous ulcerations, strewn thereon in the form of powder.

I beg here to call attention to the observations made by Halter, the originator of hot-air inhalation, that, in districts where phthisis abounded, those employed in lime-kilns remained, during a period of fifteen years, exempt therefrom. Halter attributes this fact to the influence of the hot air present. How can we explain, then, the fact that persons working in a much higher temperature—as, for instance, in furnace-rooms—do not have equal immunity?

Excluding all specific effect, it must be conceded that from these particles of calcium phosphide proceeds that mechanical irritation which gives to the diseased lung renewed vigor, favoring the reconstruction of the connective tissue of the lungs. That the effect may be a purely local one—that is, that the sound lung tissue may be spared—will be hereafter touched upon.

To satisfy the demands of antisepsis, which, without first seeking a specific against the *Bacillus tuberculosis*, promises success in view of the fact that phthisis of the lungs, being a mixed process, where other pathogenic bacilli also come into play, such as, for instance, varieties of streptococcus, sodium benzoate may be mentioned as a second constituent for the powder mixture. As the latter is soluble in water, the effect is not a mechanical but a chemical one. Without expecting, as P. von Rokitansky erroneously assumed, a specific contratuberculous effect, it nevertheless possesses great antizymic strength, acting in a stronger degree than the pure acid.

According to Buchholz, 0·05 to 0·06 per cent. of this salt, in the nutritive liquid used by him, proved sufficient to prevent the growth of bacteria. But subsequently Schreiber, after giving internally fifteen grammes, observed only insignificant results, such as dizziness of the head and a heightened pulsation of the heart. Sodium benzoate is soon eliminated from the body, partly in its original form, partly in the form of hippuric acid.

Our third and most significant constituent is either one of the ethereal oils, in the shape of an elæosaccharum, so that the whole may form a fine, amorphous powder; for the powder consistence is lost if the oleaginous constituents rise above ten per cent. Formerly they were used simply as an addition, essence, or perfume, except by the old Egyptians, who used the same for embalming their dead; with the exception, perhaps, of the heavier metallic compounds—such as those of mercury, silver, and gold—they now stand pre-eminently at the head of all antiseptic and specific contratuberculosis substances, according to Koch and others. For example, Koch found that oil of peppermint, in a solution of 1 to 33,000, was sufficient to kill anthrax bacilli, while Chamberland, Meunier, and others observed that oil of cinnamon, in its action upon typhoid bacilli, was equal to a mercurial sublimate solution of 1 to 200. This is not surprising when we consider that the ethereal oils are formed from terpenes, which, while causing some reduction, produce hydrogen dioxide, which possesses antiseptic powers; and from camphors, the contratuberculous effect of which has recently been demonstrated by Marpmann experimentally. After having administered several chemical camphor preparations to rabbits, Marpmann succeeded in making them proof even against inoculation of the *Bacillus tuberculosis.*

As soon as the powdered mixture is deposited the intermixed ethereal oils pass away, in the form of vapor, from the particles to which they clung, and enter the neighboring diseased tissue.

This is an important fact, for, if cavities do not exist which communicate with the bronchi, then, in the most favorable case, the powder will reach only to the vicinity of the *locus affectus*, which generally lies apart or excluded, and not directly accessible by way of the respiratory passages. The transpiration of the internal evaporation of oils, for which the less important powder admixtures represent the vehicle only, is termed by me "secondary internal inhalation."

The average proportion of the individual constituents is variable. For example, where the treatment of cavities is concerned, or an aggravated irritation in the trachea, the quantity of calcium may be rated proportionately low; it is proportionately high, however, in cases of chronic, cheesy pneumonia, where there is already a proneness to cicatricial formation with shrinkage.

Although insufflation is generally relegated to the simplest medicinal province, the following difficulties are enumerated herein, which, however, can be very readily overcome by any practical and skillful physician:

The first step is to pass through the narrow passage of the larynx, whose *glottis respiratoria*, in regular breathing, forms a fairly triangular opening; the same becomes extended, however, in forcible inhalation to a square, which, by means of the insertion of a laryngeal mirror, permits a deeper view into the trachea, as far as its bifurcation.

Instruct the patient, therefore, to take a deep breath at a given signal while stretching forth the tongue so as to raise the epiglottis, which covers the *aditus laryngis.* Into the mouth thus open a very thin tube is inserted, the end of which is bent at about a right angle, with the opening perpendicularly over the *aditus laryngis.* Naturally, the tube must lie exactly in the median plane and in the axis of the trachea. The propelling force must be sufficiently strong, so that, notwithstanding any resistance, the powder may really be thrown into the depths of the lung tissue, and with such rapidity that not the slightest evidence of suffocation will appear. This procedure may be simplified by having the tube of the smallest possible caliber, so that the powder reaches the superior air-passages in the form of no more than a thin ray—a circumstance which avoids, at the same time, any irritation. It is well to mention here that the ordinary powder insufflator, with hand-bellows attachment, had better be avoided, as the compression necessitates a waste of time, and use made instead of the one customarily employed for that purpose—viz., Livingstone's pneumatic spray producer,* with the assistance of which a power of from fifty to sixty pounds to the cubic inch is developed.

As the propelled powder pursues a straight line—like shot—it must pass through the *aditus laryngis* directly to the seat of disease beyond; for without particular caution it would not pass beyond the bifurcation. This difficulty can be obviated by the position of the patient himself, which may be so arranged that the powder will reach the seat of the disease directly. If the latter is located on the left (back) side, the patient assumes a position as follows: Body bent forward to the right with head thrown back, which last position is commended, in order to mitigate as far as possible the force of the propelled powder against the walls of the pharynx. In this position the patient must practice respiration. While, therefore, the healthy or less affected side is compressed by the simultaneous closing of the bronchial opening by this position, as well as by the synchronism with the respiration resultant from the elevation of the arm on the same side, besides extending the bronchial tree, the latter can in this manner regain its excursional functions, and will also, as a matter of fact, increase the lung capacity.

It is remarkable that the (among males) typical abdominal respiration may in this position be excluded, and the superior segment of the thorax, in the ulterior lung portions of which is usually located the seat of the disease, is especially benefited by this lung gymnastics. These experiments must, of course, be practiced with great caution, particularly in the beginning, to prevent hæmoptysis.

Naturally, the greatest care is necessary on the part of the physician, so that the powder to be applied may be applied not a moment too soon or too late, for in either case the glottis, closing prematurely, will cause the powder to become fixed in the larynx. Further consequences would be apparent irritability in the superior air-passages, etc. On the other hand, there is the assurance and satisfaction of knowing that the powder, owing to the peculiar position of the patient, arrives only in that particular part and neighborhood of the lung which is diseased. In fact, patients themselves designate the exact spot where they feel the air entering, they having long felt a burning sensation within the thorax, caused by the admixture of the ethereal oils, thus excluding any error in indicating the spot.

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* Made for my purpose by E. Ackermann, of No. 153 West Twenty-ninth Street.

Also, by means of physical examination, co-operation may be obtained. For example, in the case of a patient, above a circumscribed spot of the left upper lung I observed a peculiar respiratory whistling, which disappeared after every application, giving place to a rattling sound.

Are these observations worthy of therapeutic experiments? What have been the practical results obtained during the past year and a half in those cases undertaken by the writer, with a view to curing pulmonary consumption?

I will refrain from here going more specifically into the history of all the cases; they will be treated of in detail shortly; besides, minute explanation of the method of the cure will be given. But I affirm that, of the numerous cases of pronounced pulmonary phthisis which have been subjected to this treatment, there have been but few negative cases to record, and these but apparently negative, as the treatment was not continued long enough.

One of these cases, for example, was that of a young girl who was so nervous that the vocal cords under the laryngeal mirror were in a continual state of vibration; here, of course, the powder could not reach beyond the larynx. Where, however, treatment was possible (and it is never required for a longer period than three or four months), improvement was observable until the disappearance of the bacilli, except in one case; and gradually the cough and expectoration ceased and an increase of flesh was apparent. After that it was possible to undertake the physical treatment or cure of the diseased portions within which the desired cicatricial formation had taken place.

Lack of space permits the particular citation of but two cases, taken from the records of the histories to be published. Among the numerous cases they are represented as Case I and Case VIII.

CASE I.—Mr. P., engineer, Scotch, forty-five years of age, for twelve years suffering with pectoral complaint. For a period of three years there has been increased suffering, with a rapid decrease of bodily strength. The most eminent medical authorities consulted; diagnosis, phthisis pulmonalis. Several months' sojourn in the South without beneficial results. Afterward several months' sojourn in a private hospital for consumptives, from which he was discharged as incurable.

Status præsens, December 5, 1889.—Patient is tall and narrow-chested; in a very wretched condition. Worn almost to a skeleton and so weak that he can not walk without assistance. So short of breath that speech is extremely difficult. Complains of a continual cough. Expectoration and severe stomach pains; frequent night-sweats. Left half of thorax crippled, in consequence of the uneven healing of a rib fracture. Scarcely exercises the respiratory organs. Extreme dullness of the front half of the thorax. In the back, on the same side, a tympanitic sound. In the anterior and ulterior parts, continuous rattling sounds. Profuse expectoration; numerous elastic fibers; individual bacilli. Treatment began December 7, 1889. Respiration, 40; weight, 115 pounds.

Though the patient is quite exhausted and respiration extremely weak, he nevertheless seems fit for the treatment about to be practiced, and undergoes, several times a day, the above-described gymnastics for the lungs. First insufflation, December 14th; repeated on the 17th and 18th. Each time this powder is applied three times in succession; patient feels the strong current of air in his breast. Cough and expectoration rapidly improve; particularly, the patient declares that expectoration no longer causes any effort, as formerly. On the 20th, appetite good and a gain in bodily strength. Respiration, 32. After practicing this lung gymnastics two weeks a decided increase is shown in that half of the thorax which was almost in a state of cessation as regards its respiratory excursional functions. After an attack of influenza, exacerbation follows as regards all the symptoms, consequently causing a relapse. Patient was bedridden for a time. After resuming the lung treatment of the now thoroughly exhausted patient, on the 5th of January, 1890, cough and expectoration appeared to return almost in their original form. But few bacilli found; distinct movements of the diseased side of the thorax. From this time forth, all through January, daily applications. The powder was found to have reached the inferior lobe of the lung, latterly to the superior, and finally to the apex.

After a time the bodily strength increased; slowly cough and expectoration passed away, and finally the bacilli, never profusely present, disappeared altogether.

The following is cited as an illustration: The inmates of adjoining rooms, having become accustomed to the continual cough of this patient (most severe at night), after the same ceased, often inquired whether death had already relieved him of sufferings.

Status præsens, February 2, 1890.—The patient, whose face formerly showed sunken eyes and prominent cheek bones, presenting a frightful appearance, has, through the accelerated and violent respiration, found adequate relief, and now seems livelier and happier, being scarcely recognizable as the same man. Respiration, 24 a minute; coughs only early in the morning; is more active. Expectoration almost gone. During the day and night no coughing. Increase in weight, six pounds. Patient walks without assistance. Can converse also for some length of time without fatigue.

Results, as above stated, after examination. On measuring by means of the calipers, decided change of the sterno-vertebral diameter (about one centimetre) in the second intercostal space. The acquired lung capacity measured with spirometer. Left side, tympanitic echoes, slight sounds of rattling.

A continuation of the treatment until the middle of March, with slight interruptions, kept the lung symptoms unchanged; the general condition somewhat wavering, in consequence of periodical stomach trouble and loss of appetite. Formerly the gastric troubles often reached a high degree of intensity. Dismissed and treatment discontinued. The patient accepts a position in the South, whence he returns after three months. Since discharge has become stronger; insignificant stomach trouble; steady increase in weight. Patient coughs now and then in the morning, with slight discharge of phlegm. Mr. P. is able to follow his vocation without exertion. His only complaint now is of frequent palpitation of the heart; also, objectively, there is observable an increase of cardiac dullness.

Résumé.—It is remarkable that the improvement of all symptoms is so rapid in the first week, while after that the progress is, comparatively, much slower. Nevertheless, the recovery of a man so completely in a decline and so full of suffering is assuredly remarkable. Perhaps this might be explained by stating that this case, because of the scarcity of the presence of bacilli and the extreme shrinkage of the left lung, was peculiarly adapted to such therapeutics, which becomes still more strengthened during the treatment by elimination of the *causa efficiens;* withal, the increase of the hypertrophy of the heart is in unison with the foregoing.

Case VIII.—Miss P. J., thirty-three years of age, ailing for many years. At first simply chlorosis and stomach weakness; later, catarrh of nose and throat. Finally, for the past seven years, pulmonary symptoms, such as cough, expectoration, chest depression, etc. At first only in a limited degree, but during the past three years continually increasing, accompanied by rapid decline of bodily strength, gradual lessening of appetite, etc., with frequent fever and night-sweats. The patient was formerly forewoman in a large mercantile house, but for some time past incapacitated for work, often being obliged to keep to her bed.

Status præsens, February 17, 1890.—The patient is a small, slight person, with a pale, thin face, causing her to appear much older. The left half of the thorax remains remarkably impassive while breathing; the second and third intercostal space seems to be particularly sunken; over the same, moderate dullness with weakened respiration and dry rattling sounds; bronchial respiration over the apex of the lung. The right lung is apparently unaffected; patient complains of frequent coughing, especially at night, yet expectoration is insignificant. Microscopic examination, repeatedly undertaken, discloses few scattered bacilli. Patient complains of severe indigestion, weakness in the feet, etc. In the exercising process the patient proves very clever. As there are no cavernous symptoms, but rather chronic, running, cheesy pneumonia in the left upper lobe, accompanied by shrinkage, a larger admixture of calcium phosphide is resorted to.

It is interesting to note that the patient after every insufflation, indicating accurately the spot in the thorax where she feels the inhaled air passing, becomes exhilarated, and immediately after prompted to repeated, energetic respiration, without causing cough or irritation. The application is made daily for a period of four weeks. Within this time a very great improvement is evidenced in the cough. Expectoration becomes proportionately small; disappears entirely after a short time. Within a fortnight after, the cough wholly disappears; but, notwithstanding, the treatment is continued. Presently, too, the general health improves. Fever and night-sweats cease, appetite returns, and proper nourishment results in satisfactory progress. Patient feels very much strengthened, and an increase of four pounds has taken place. Her face has grown plump, shows color, altogether causing her to appear much improved. A deficiency of breath after active exercise is now her only complaint. Worthy of note is the fact that the difference in the sagittal diameter of both sides of the thorax, measured with calipers in the mamillary line, is now equalized. The respiratory sounds in the parts which were affected still somewhat weakened. As an after-cure, the patient will sojourn for a few weeks in a mountainous district. Her condition was still more improved on her return. In the morning only there is slight expectoration, but no cough, and that the patient rightly attributes to throat and nose catarrh, which has not yet disappeared. The latter will, however, now be successfully treated. At present (November, 1890) the patient is entirely restored to health.*

In conclusion, it is desirable to emphasize that this issue is based upon a practical experience in local therapy of pulmonary disorders, which, it is admitted, excludes from consideration any complications caused by the presence of the *Bacillus tuberculosis* in other organs.

On the other hand, this local treatment of the lungs in the form of insufflation, which, so far as is known, has only been used by Martel in the form of calomel insufflation, may likewise be considered with regard to other pulmonary disorders—for instance, gangrene of the lung, etc.

1055 Lexington Avenue.

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* Several other cases, with more or less extensive cavities, also show healing within a period not much longer.

THE MIMICRY OF ANIMAL TUBERCULOSIS IN VEGETABLE FORMS.*

By E. F. BRUSH, M. D.,
MOUNT VERNON, N. Y.

At one time I became deeply interested in reading the travels of Livingstone and other brave and noted explorers of Africa, and, while my mind was full of the wonders and mysteries of the Dark Continent, I met a gentleman who informed me that he had resided many years in Africa. I tried to obtain from him some information which I had been in search of. I spoke of the geographical problems to be solved and the difficulties to be surmounted in civilizing that enormous continent, and the whole burden of his comments was that Africa was a great country and would be easily civilized and all obstacles overcome if it was only properly drained. Now, this man's residence in Africa had been confined to the west coast, where the notorious swampy and malarious districts lie, and, because he had not traveled farther or interested himself in the travels of others, he imagined that all Africa was like that portion of the country which he did know would be the better for draining.

We should all naturally be surprised at the narrowness of this man's views, who imagined that an immense continent with snow-capped mountains and rainless deserts of vast extent could be judged from the narrow limits of a malarious swamp, where he had resided for a few years; but, on reflection, the idea could not but occur to me that we medical men, in our studies of the Dark Continent of disease, were often as narrow in our views as this man was in his views of Africa. For instance, a very few years ago Koch discovered in a tubercle numerous bacilli, and straightway we fancy that the tubercle would be harmless if it were only drained of its bacillus, and we put ourselves to work with hot air, rectal injections, medicated inhalations, etc., imagining all the time that we could subdue this terrible and mysterious disease and settle all the difficult questions of pathology connected therewith by simply eliminating from the economy the bacillus of Koch. The bacterial region is emphatically now our place of residence; we wade through swamps of pus, blood, and morbid tissues, pushing aside all other forms and vital processes, after the beckoning specter of a bacillus, and, when we find it, flatter ourselves that we have reached the goal and discovered all that is necessary to conquer a disease associated with this small organism. We hardly inquire how it gained its position, what its functions are other than what we imagine as being concerned in the causation of disease, but accept it as the spirit and soul and prime factor in the cause of pulmonary tuberculosis. Happily, the tendency now is to break beyond the bounds of this narrow bigotry; hence I think that a study of some of the vegetable forms that closely mimic animal tuberculosis will help us in our march beyond the narrow swamp through which we are still struggling.

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* Read before the New York State Medical Association at its seventh annual meeting.

One of the vegetable diseases which mimic very closely tuberculous animal processes is seen in the nut-gall. The nut-galls are truly tubercular processes affecting the breathing apparatus (leaves) and the nutritive channels (roots) of plants. These galls are among the most puzzling of natural phenomena. It is actually known that the *Cynips*, or gall-fly, a small insect of the hymenopterous order, punctures the leaf of a plant or tree, and there deposits an egg, injecting at the same time a very minute drop—the animal itself is only one tenth of an inch in length—of what is described by entomologists as a poison, but which is, beyond doubt, a digestive ferment. This fluid, injected by the insect into the cavity that holds the egg, affects the nutritive process of the plant in such a preponderating manner that it allows the egg to rest in the cavity without the irritating results of the intrusion of a foreign body, and the extraordinary nutrition caused by the ferment goes on to form the tubercular mass known as a gall.

Far more interesting and more closely analogous to animal tuberculosis is the disease attacking the grape-vine caused by the insect called *Phylloxera.** Can anything in plant-life more closely resemble a human tubercular lung than a leaf of a grape-vine with the galls of *Phylloxera?* "In August, 1885, Luiz de Andrade Corvo presented a paper to the Academy of Sciences in which he asserted that the vine disease ascribed to *Phylloxera vastatrix* was really due to a bacillus, or rather, according to his description, to a bacterium, which is always found in the tubercles of the radicles and in the tissues of the vine which are affected by this disease, termed by him *tuberculosis.* They are also found in the body of the insect, which thus becomes simply the agent of contagion." †

Now, has not this author narrowed his views down to the bigotry of bacilli-worship? The presence of a bacterium in this disease of plant-life is only one of many phases of a morbid process. The bacillus he discovers here is merely the nutritive ferment deposited by all gall insects, and often, as we have already said, called a poison. The *Phylloxera vastatrix*, like the *Cynips quercus*, wounds the leaf, deposits its egg in the wound, and, besides, injects the bacterium which is the nutritive ferment that produces the gall which characterizes the disease. The following sketch of the natural history of the *Phylloxera* is taken from John Henry Comstock's *Introduction to Entomology:* "The grape *Phylloxera* hibernates in the roots of the grape mostly as a young larva of the first or sedentary, agamic, wingless form. With the renewal of vine growth in the spring this larva moults rapidly, increases in size, and soon commences laying eggs. These in due time give birth to young, which soon become agamic, egg-laying mothers like the first, and, like them, always remain wingless. Five or six generations of these parthenogenetic, egg-bearing, wingless mothers follow each other, when (about the middle of June in the latitude of St. Louis) some of the individuals begin to acquire wings. Thus is produced the second or migrating, agamic, winged form. These issue from the ground while yet in the pupa state; as soon as they have acquired wings they rise in the air and spread to new vineyards, where they lay their eggs usually in the down of the under sides of the leaves. Each individual of this generation lays from three to five, and some as many as eight eggs. These eggs are of two sizes; the smaller, which produce males, are about three fourths of the size of the larger, which produce females. From these eggs are hatched in the course of a fortnight the third or wingless sexual form. It is a very remarkable fact that this form emerges from the egg not as larva, but as fully developed individuals. These sexual individuals are born for no other purpose than the production of their kind, and are without means of flight or taking food. After pairing, the body of the female enlarges somewhat, and she is soon delivered of a solitary egg. The impregnated egg gives birth to a young louse, which develops into the first form, and thus recommences the cycle of changes. It has been discovered that sometimes the first form during the latter part of the season lays a few eggs, which are of two sizes like those of the second form, and also produces males and females, which are precisely like those born of the winged form, and, like them, produce the solitary impregnated egg. Thus the fact is established that even the winged form is not essential to the perpetuation of the species. Occasionally individuals abandon their normal underground habit and form galls upon the leaves of certain varieties of grape-vine. Owing to the great injury this species has done to the vineyards of France, hundreds of memoirs have been published regarding it. But as yet no satisfactory means of destroying it has been discovered. The difficulty lies in the fact that the insecticide must be one that can penetrate the ground to the depth of three or four feet, reaching all the fibrous roots infested by the insect. It must be a substance that can be cheaply applied on a large scale and that will kill the insect without injury to the vine. Where the vineyards are so situated that they can be submerged with water for a period of at least forty days during winter, the insect can be drowned. It is found that vines growing in very sandy soil resist the attacks of the grape *Phylloxera.* This is supposed to be due to the difficulty experienced by the insect in finding passages through such soil."

Here we have the whole natural history of a bacillary tubercular disease in plants. Notwithstanding the fact that every phase of its life history is well understood and the diseased parts can be seen and handled, yet its treatment is futile. This teaches us the narrowness of our study of human tuberculosis when we imagine that Koch's discovery of the bacillus placed us in a position to treat this complicated disease. We do not know the manner in which the bacillus gains the position it occupies in the tubercular mass, or why it sometimes attacks the lungs, and sometimes the glands, and sometimes the bones. Is it conveyed to its position by a host? Nothing we as yet know indicates this supposition except the analogy of vegetable parasites. It is not found in the blood or in the muscular juices. The present exclusive devotion to the observation of bacteria would almost preclude the detection of a host if one did exist. Crookshank, in an appendix to his work on *Bacteriology*, says: "When examining blood, the bacteriologist must be prepared to meet with minute organisms, which at the first glance under moderate amplification may be mistaken for vibrionic or spiral forms of bacteria. The organisms referred to belong not to the vegetable but to the animal kingdom. They may occur associated with disease, but they appear to be more commonly found in the blood of apparently perfectly healthy animals." Thus the fact is stated by good authority that parasitic animals do exist in the blood.

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* From Dr. C. V. Riley, *Missouri Entom. Rep.*, vi, vii.

† *Microbes, Ferments, and Molds.* By E. L. Trouessart. D. Appleton & Co., New York, 1886.

This is not the only parasite to illustrate the mimicry of animal and vegetable morbid forms. There are myriads of parasites, and parasites on parasites, in the descending scale to the minutest forms. Thus all vital activity is kept in unison; nothing is allowed to die; one living organism ceases that others may continue, and the others in turn are dissolved to continue other phases of vital activity. The little germ that robs man of his vitality undoubtedly conveys that vitality to some other living organism, thus forming a link in the endless chain of organisms in action.

Another form of change not parasitic is suggestively analogous to the bacillary tubercular phenomena. The yeast plant is a germ, and undoubtedly Pasteur's noted researches on the life history of this plant formed the starting point for the universal study of bacteriology to-day. No thinking man could have followed his reasonings, conclusions, and deductions without concluding that all febrile conditions at least were the result of the growth of germlife, producing ptomaines, extractives, etc. There are many phases of alcoholic fermentation that mimic the morbid processes of bacillary phthisis.

Thus we know that the presence of the tubercular germ in the mouth or other parts of the body is not always followed by tuberculosis. Analogously we know that the presence of yeast germs in a saccharine solution does not always give rise to alcoholic fermentation. The solution must contain less than twenty per cent. of the saccharine material. Thus the specific gravity of the solution is the controlling condition in the activity of the yeast plant. The same may be true of the human body. It can easily be understood that in the human body the specific gravity may vary. Thus an exceedingly fat and juicy body would be of lighter specific gravity than a closely-knit, hard, muscular body, and undoubtedly the specific gravity of the body has something to do with the morbid action of many of the germ phases of disease. Nor is this all. Before Pasteur's enlightening investigations it was supposed that the yeast germ was contained in the atmospheric dust, but Pasteur proved conclusively that this was not the case. He admitted atmospheric air and its dust into sterilized tubes of proper saccharine solutions for the growth of yeast, but the alcoholic fermentation was never set up in solutions thus treated. Then the question arose, Where did the yeast plant come from? and further study revealed the fact that all kinds of fruit contained on their surface a germ termed by Engel "apiculated ferment" (carpozyma). This is a hibernating germ, and, unless the fruit is bruised and its containing sugar in due proportion brought into contact, the germ will not grow or produce its special changes. This plant does not in any way resemble the ordinary yeast plant unless it is modified by its growth in a fermenting fluid. May we not then easily suppose that some germ-forms exist normally in the animal tissues prone to tubercular diseases, and only develop into the forms in which we find them when some anterior morbid process has been developed? This idea is concisely expressed in a paper read before the New York Medical Association, March 17, 1890, by Dr. James R. Leaming, a gentleman who has grown old in the study of this disease. He says: "I have seen no case of phthisis that could not be accounted for satisfactorily without supposing infection or contagion. I can say more. I have seen no case of phthisis where there was a probability of primary infection with no other cause.

"The first physical evidence of dead atoms in the system is their extension from the capillaries into the pleural cavities, as damaged leucocytes or ptomaines by physical diagnosis; and this may be done before the presence of the bacilli can be detected in the sputa. The bacillus is consequent, not causative; it is true that ptomaines are in the blood before the expression of the leucocytes, but, as a rule, not in abundance sufficient to attract the germs."

This explanation of one phase in the development of tubercular disease will coincide exactly with the development of alcoholic fermentation in the case of grapes. Thus on the surface or in connection with the grape is a hibernating germ, and this germ is never brought into activity unless the grape is bruised and forms a solution, when the germ becomes active and changes the sugar into alcohol and other products of fermentation, which mimic the formation of ptomaines in the animal economy.

There are many other forms of vital processes outside of the animal body that mimic its morbid processes. All these forms are complicated, many of them mysterious, and associated with an interminable train of anterior and subsequent evolutions to the germ activity. My object in alluding to those enumerated is only to show the apparent fallacy of our imagining that because we have discovered the presence of a minute germ, we are also in possession of sufficient knowledge of the morbid processes associated with this germ to indicate a rational mode of treating the disease where the germ exists, without knowing definitely how much other conditions outside the germ have to do with the process. It has ever been one of the characteristics of scientific men to make sweeping and hasty deductions from the discovery of some one undoubted fact. I do not in any manner wish to detract from the honor and brilliancy of Koch's discovery, but I wish to protest against the tendency of the medical mind to-day to hang everything on the bacillus. For instance, if the bacillus was the only cause of tuberculosis, it would have to be viewed in the light of a foreign body within the tissues, and we know that foreign bodies always set up inflammatory action and subsequent suppuration, which is not always the history of tubercular processes. These are sometimes organized or cretefied. There is a germ disease where the morbid processes depend on the germ and the germ alone, and an abscess is always formed by this germ (actinomycosis), and a cleaning out of the abscess and total elimination of the germ cures the morbid process. But I think the presence of the tubercular bacilli must be viewed in somewhat the same light as the nut-gall of *Phylloxera*. In this the presence of the eggs is not the cause of the tubercular growth, because if the egg alone were deposited in the leaf it would act as a foreign body; it is the material that is injected into the leaf at the same time as the egg is deposited which sets up such an action in the nutritive processes of the leaf that the irritation of the egg is entirely overcome.

Without much stretch of the imagination we can imagine the giant cell as occupying the position in the tubercle of human phthisis that the egg of the *Cynips* occupies in the nut-gall. According to this view, the bacillus would be the nutritive material causing the growth of the tubercle. These surmises and similes could be carried on *ad infinitum*, but I think the mimicry is suggestive enough to indicate to us that there is vastly more to be known of human tuberculosis than merely that a germ is present in a mass of morbid material.

Correspondence.

LETTER FROM DUBLIN.

Dublin Hospital Sunday.—The Royal Academy of Medicine in Ireland.—The Royal University of Ireland.—Professor Koch's Treatment of Tuberculosis.—Typhoid Fever in Dublin.—The Royal Hospital for Incurables.—Sir J. T. Banks, K. C. B.

DUBLIN, *November 25, 1890.*

COLLECTIONS in aid of the Dublin hospitals took place on the 8th inst. in about two hundred and thirty churches in the Dublin district. Last year the Dublin Hospital Sunday Fund obtained a sum of £4,155 5*s.* 4*d.*, and since its institution the total collected has amounted to no less than £61,345 15*s.* 9*d.*

The eighth annual general meeting of the Royal Academy of Medicine in Ireland took place at the close of last month, when the office-bearers for the ensuing year were elected. The same evening the Academy lecture, on The Modern Diagnosis of Diseases of the Stomach, was delivered at the Royal College of Physicians by Professor Purser, the chair being occupied by Dr. Samuel Gordon, president of the Academy. Professor Purser, in the course of his address, dealt with the aids which modern research has given to obtaining a better insight as regards the functions of the stomach, both in health and in disease. He recommended the removal of the contents of the stomach with a soft-rubber tube, and then their examination by chemical means to see if free hydrochloric acid was present. He showed that this method was of great practical importance, and enabled the physician in some difficult cases to arrive at a more certain diagnosis than had hitherto been possible. The first meeting of the Surgical Section of the Academy was held on the 14th inst., when an interesting discussion took place on a case of enterectomy described by Mr. Hayes. The varieties of sutures used were referred to, great praise being accorded to the method of decalcified bone plates as suggested by Professor Senn, of Milwaukee. At the termination of the meeting Mr. Croly, the president of the college and of the Section, entertained over a hundred guests at supper at the College of Surgeons.

The degrees recently obtained by the graduates of the Royal University of Ireland were conferred by the Right Hon. J. Ball, LL. D., pro-vice-chancellor, who in the course of an interesting address referred to the fact that female students were in that university permitted to compete for prizes. In every department, he said, they had obtained honors—classics, modern languages, literature, mental and moral science, and even mathematics and the kindred sciences. Miss Robertson had won in experimental physics the highest prize—a studentship of £100 a year, tenable for three years. In the evening a *conversazione*, given by the graduates, took place in the university buildings, and was a great success. It was the first of its kind, and probably will be repeated.

Professor Koch's treatment of tubercle has attracted considerable attention, and several of our physicians and surgeons have gone to Berlin to see the treatment carried out and to obtain the "lymph" necessary for the hypodermic injections. The composition of the fluid has not up to this been disclosed, but it is probable that, if the results are fairly successful, the method of preparation will shortly be published.

Typhoid fever has been rather prevalent for some time past in Dublin, and numerous deaths have taken place from this disease. As the water is one of the purest, the prevalence of the fever is probably due to defective drainage. On the other hand, typhus fever has to a great extent disappeared, although some years since it was one of the most fatal of the zymotic class of affections.

The Royal Hospital for Incurables has been left the handsome sum of £10,000 by the late Mr. T. E. Ryan, of Dublin, one of the governors, who when alive took considerable interest in the working of the hospital.

Sir J. T. Banks, K. C. B., M. D., the eminent Dublin physician, will hold the office of high sheriff for the County Monaghan for next year.

Albuminuria in Infancy.—The *Lancet* for November 15th quotes Seyournet in regard to a newly recognized type of renal congestion, with albuminuria, in very young children, which he believes is not infrequent. It is not the same as scarlatinal albuminuria. He has studied the malady in children from a year to a year and a half old. Many of the subjects were bottle-fed or had been given unsuitable articles of diet, which caused distended stomach and intestines, with catarrh of the latter, sometimes with vomiting and diarrhœa, and in a few instances an enlargement of the liver. He believes that the albuminuria is toxic and due to the generation of certain substances by fermentative action of an abnormal nature within the bowels, and their absorption thence into the renal circulation, the brunt of their offense being expended upon the latter organs. The disease was marked by anuria in many cases; in some cases not more than half an ounce of urine was passed in a day. Œdema of the feet, and even of the face and eyelids, frequently occurred. The duration of the disease was from two to four weeks. The treatment that served the most useful purposes included the employment of intestinal antisepsis, salicylate of bismuth and its congeners being commonly employed, and a diet of milk and lime-water. Gentle aperients were used when there was vomiting, and systematic massage over the kidneys in order to reduce the congestion of those organs.

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THE PROGRESS OF THE KOCH TREATMENT OF TUBERCULAR DISEASE.

It appears now that New Haven was not the scene of the first trials of Professor Koch's remedy in America; it had been in use for several days at the Hospital for the Ruptured and Crippled, and it is now the subject of experiment at many of the New York hospitals. So far as inferences may be drawn from what has been observed here and elsewhere, they are suggestive rather than decisive, and they bear more upon the physiological action of the remedy than upon the radical question of whether or not it is curative. We shall revert to these matters farther on. In the mean time mention should be made of a remarkable contribution that has been made to the literature of the subject.*

The work to which we allude is a brochure of fifty-eight pages, by two London gentlemen, and they state that its contents are the outcome of their personal observations in Berlin, chiefly at the Charité. The preface is dated November 29th, and the book shows a number of signs of haste in its preparation, the most noticeable of which is a blank space where there should be an engraving. Mr. Grün and Mr. Severn seem to have been the first to get out a monograph on the Koch treatment, and the gratification of having done so will no doubt compensate them for any chagrin they might feel on account of the defects incident to its hasty preparation. They are enthusiastic believers in the efficacy of Koch's treatment, and they rank his supposed discovery far above Jenner's, classing the latter (somewhat unjustly, we think) as "purely accidental."

They conjecture that the active principle of the Koch liquid is a ptomaine produced by the *Bacillus tuberculosis*, which, they say, is "killed by an excess of its own poisonous excreta." Two engravings are inserted to show the effect of the injection on the microscopical appearance of the bacilli in the sputa. The authors seem, therefore, to believe, contrary to Koch himself, that the remedy acts on the bacilli; and they explain its action as that of an "overtaking treatment" (*Nachimpfung*), denying its analogy to the operation of Pasteur's inoculations with attenuated virus. This theory can hardly be either accepted or rejected without reserve until we have positive information as to the nature of Koch's liquid—information which, as we have before remarked, ought not to be delayed much longer.

Elsewhere in this issue we print some extracts from this very interesting pamphlet. The work contains a goodly number of detailed histories of cases, with particularly full temperature records, although the authors state that they found it impossible to induce the hospital officials in Berlin to have the patients' temperature observed at night.

Several deaths have occurred in Berlin and elsewhere as the apparent result of the injections, and this has emphasized the necessity of caution in their employment. A cable dispatch received on Monday, the 15th inst., from Dr. John Guiteras, of Philadelphia, who is now in Berlin, is summarized as follows in a supplement to the December number of the *University Medical Magazine*, of Philadelphia: "A greater degree of caution is being observed, especially as to the selection of cases of pulmonary phthisis subjected to the lymph treatment. The results, in this disease at least, are as yet inconclusive. Many cases are not decidedly improved. There is some risk of complication. Both pneumonia and meningitis have been observed. The general situation may be summed up by stating that a spirit of caution prevails in Berlin to-day." A press dispatch from St. Petersburg, dated the 17th inst., states that the use of the method in Russia has been prohibited until it has been properly investigated under the direction of the Government. A death has occurred in New York within a few hours after an injection, but it was that of a child almost moribund with tubercular meningitis, and the procedure is not thought to have hastened the death.

Swelling of the spleen and pain in the region of that organ are said to have accompanied the febrile reaction in some of the New York experiments, but Dr. Gibney, of the Hospital for the Ruptured and Crippled, and Dr. Kinnicutt, of St. Luke's Hospital, say that those phenomena have not occurred in the patients under their observation.

In cases of pulmonary tuberculosis, the cough and expectoration are usually increased, and this increase is one of the primary results of the injection, and hæmoptysis is apt to occur. In one of Dr. Gibney's patients, a child whose lungs had been pronounced sound by Dr. Thacher, cough or "snuffles" came on in nine hours after the injection. If this should prove to be a common occurrence, there may be some ground for entertaining the idea that the remedy has an affinity for the pulmonary tract independently of its supposed affinity for tuberculous tissue; but there are some excellent observers who, like Dr. Kinnicutt, do not believe that an individual affected with a tuberculous disease can be said to be absolutely free from pulmonary tuberculosis, although the deposit may be so small that no physical examination, however carefully made, will reveal it.

Lupus seems still to constitute the most favorable field for experiment. No definitive cure of that disease by the new treatment has, so far as our information goes, yet been recorded; but the various observers here and abroad are substantially unanimous in their descriptions of the local and constitutional results of the injections—the affected part becomes swollen, red, and painful, and eczematous exudation follows, this is succeeded by incrustation, and, when the crust falls or is detached, the surface shows decided improvement. The University of Pennsylvania's commission, consisting of Dr. William Pepper, Dr. James Tyson, Dr. J. William White, and Dr. John H. Musser, cite Nencki and Sahli as having shown that the local changes are very similar to those produced by the inoculation of lupous patients with erysipelas; and this suggests that the products of more than one micro-organism—in other words, more than one medicinal agent—may prove antagonistic to the tuberculous processes.

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* *Handbook to* [*sic*] *Dr. Koch's Treatment in Tubercular Disease.* By Edward F. Grün, M. R. C. S., L. R. C. P., and Walter D. Severn, Assoc. Roy. Coll. Sci. London: J. & A. Churchill.

In conclusion, the main question of the curative efficacy of the Koch liquid seems hardly nearer a solution than at first, but our stock of facts in regard to its effects is accumulating satisfactorily.

THE ABUSE OF MEDICAL CHARITY.

We are glad to see so strong and able a protest against the abuse of medical charity in our large cities as that of Dr. Gould, published in the *Medical News* for the 22d ultimo. Evidently he has spent much more thought on this subject than most of us, who, while bemoaning the medical beggary that exists, continue to degrade ourselves and our patients by indiscriminate medical almsgiving, for he has suggested a means, if not of cure, at least of prophylaxis. His statements would seem to be the embodiment of exaggeration to one not acquainted with the actual state of things in our large cities, but the worst of the paper is that it so accurately portrays the truth. Every physician of a clinic can cite cases from his own experience which are evidences of the pauperization of people able to pay him a fair price for his services. The case of curvature of the spine in a person who made the rounds of several hospitals and was given salicylates for probable muscular rheumatism, until finally examined by a more conscientious physician, may be an extreme and humiliating example of careless snap diagnosis and routine treatment induced by the hurry of the clinic room; but we fear that similar cases are only too common, and we know that habits of haste and carelessness are engendered thereby.

Regarding the effect of this abuse upon the young practitioners, Dr. Gould says: "When they enter upon their career they find that the older physicians treat, free of charge, thousands and hundreds of thousands of patients who could pay something, and that the younger physicians who need encouragement and practice, and to whom these patients would naturally fall, are left to starve for years, until somehow they wriggle into a properly compensated practice. It is brutally unjust to the young practitioner." The truth of this needs no affirmation to one who is or has been a young practitioner in a large city.

This abuse, he maintains, has arisen as the combined result of several confluent causes, pre-eminent among which, be it ever remembered, are the tender solicitude and unselfish kindness toward the sick on the part of medical men generally. Prominent among the other causes are the carelessness of almsgivers and testators in not providing against a misuse of their bounty, the neglect of trustees and managers of hospitals to cause a proper investigation of the alleged poverty of applicants for the benefits of the charity, the foolish competition among hospitals to treat the largest number of patients, the desire for clinical material for teaching purposes, the desire on the part of the visiting physician to see many patients in order to study disease in its infinite diversity and gain perfected technique, and, most active perhaps, the desire on the part of the chief and assistant physicians to build up a private practice indirectly.

The results Dr. Gould partially enumerates as: 1. The encouragement of pauperism, dependence, and deceit in a large class of the community. 2. The danger that, if it is ignored until it becomes still further exaggerated, when the knowledge of its enormity finally bursts upon the community, all forms of praiseworthy and necessary charity will suffer. 3. Injury to both physician and patient from a hurried and routine diagnosis and treatment. 4. The degradation of the medical profession by encouraging envy and subtle methods of advertising and by depriving the younger members of their proper *clientèle.*

The remedy he suggests is that a codicil to all wills and bequests be prescribed, worded in such a manner that, unless the trustees of the institutions named exercise stringent care that only truly needy persons receive the benefit of the bounty, the bequests shall revert to the heirs. The practicability of this proposition we do not care to discuss at this time, but we are glad to have a definite suggestion made, and if it is practicable its efficiency can hardly be doubted.

We can not agree to all that Dr. Gould says regarding the sufferings of the country practitioner from this cause, for we have known of too many cases in which the country practitioner has caused imposition and deceit to be practiced upon his city brother by advising his patient to attend the clinic, poorly dressed, and to get the benefit of a consultation for nothing. If such patients should thereafter choose to attend the clinic to the pecuniary loss of the practitioner who gave such advice, the latter would suffer poetic retributive justice. But as to the main points in his paper we heartily agree with him. The same effective inquiry that has been found necessary in all other forms of charity should be insisted on regarding the fitness of applicants to receive medical charity, and the rights of the younger members of the profession should be regarded.

MINOR PARAGRAPHS.

THE ABORTIVE TREATMENT OF ERYSIPELAS.

In the *Gazzetta degli ospitali* for October 22, 1890, Dr. Natale Amici adds some remarks to those first published by him in 1885 upon this subject. His method of treatment consists in destroying the streptococcus of erysipelas in the shortest possible time. He insists that the infection is not always limited by the border of the erysipelatous blush, but often extends beyond this into the apparently sound skin, even to a distance of 40 centimetres. This *latent* erysipelas should be treated as well as that which is visible, and herein lies the success of his method. The chief symptom of latent infection is tenderness on pressure in the apparently healthy skin contiguous to that which is already red and inflamed. Amici has succeeded best with carbolic acid and corrosive sublimate. In using carbolic acid, he formerly combined it with alcohol, taking equal parts of each. This application was effective, but caused smarting and discoloration of the skin. He has therefore replaced the alcohol with glycerin, the proportions remaining the same. The mixture is to be applied every two hours over the whole of the affected parts, and its use continued so long as there are any symptoms of extension of the infection. With persons with a very delicate skin, or with children, the intervals may be made longer. Under this treatment all symptoms of erysipelas disappear within two or three days. Should the subcutaneous tissues be involved (phlegmonous erysipelas), hypodermic injections of a 1-, 2-, or 3-per-cent. aqueous solution of carbolic acid are to be made with a Pravaz's syringe, according to Hueter's method. The urine should always be carefully watched, and, should it show too great an absorption of carbolic acid, the applications must be diminished in number or even entirely abandoned. Amici has never seen any bad results when this precaution was observed. Some individuals can not tolerate the odor of carbolic acid. In such cases Amici employs a 1-per-cent. solution of corrosive sublimate in glycerin, to be used in the same manner. The patient's gums should be carefully observed, to avoid mercurial stomatitis.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE ARMY.

This *Annual Report for the Year ending June 30, 1890*, shows that 32,886 cases were under treatment, the rate of admission to sick report being 1,315·02 to the thousand of strength, 44·12 men to the thousand being constantly non-effective from sickness, and the death rate being 6·33. The volume contains the usual reports on the health of the military departments and on that of the individual posts, on the prevalence of special diseases, on field operations, and on the general sanitary condition of the army. The medical officers of the national guards of the various States may find Captain Brechemin's criticisms on this arm of the militia interesting, and his advice as to a more careful study of certain text-books should be followed. The publication of special reports of medical and surgical cases has been omitted; this seems advisable, for reports of interesting cases should have wider dissemination than the necessarily limited circulation of an official report affords, and such papers unnecessarily increase the bulk of the volume. The efficiency of the medical corps of the army is in no way better shown than by the very nearly constant annual average of the sanitary statistics, and there is every reason to believe that its high standard of excellence will continue.

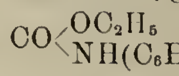
THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE NAVY.

During the fiscal year ending June 30, 1890, 12,029 patients were treated, and 9·89 in a 1,000 died; of 13,444 persons examined for enlistment, more than a third were rejected. The Museum of Hygiene at Washington has improved satisfactorily during the year, and its field of usefulness is constantly becoming better appreciated. Reference is made to the failure of Congress to enact a bill for improving the rank and pay of assistant surgeons, and it seems impossible to obtain a sufficient number of qualified physicians to fill existing vacancies. The volume concludes with the usual statistical tables and reports of medical officers attached to the different vessels.

SALICYLIC ACID AS A PROPHYLACTIC OF SCARLET FEVER.

In an October number of the *Centralblatt für klinische Medicin* Dr. G. Sticker reports the observations of Dr. G. de Rosa, as published in the *Giornale internazionale delle scienze mediche*, as to the value of salicylic acid as a preventive of scarlet fever. Out of sixty-six children exposed to the infection, twenty-seven cases existing in one house, only three took the disease after the administration of the drug, and in those the failure was attributed to the fact that its administration had been begun too long after exposure. Its use is to be begun when there is danger of infection, giving from 0·1 to 0·3 gramme (1·5 to 4·5 grains) daily, until the possibility of infection is past. It is not necessary to isolate the patients, for fear of their communicating the disease, under this *régime*.

EUPHORINE.

The name euphorine has been suggested by Professor Giacosa for phenylurethrane,  $CO\langle^{OC_2H_5}_{NH(C_6H_5)}$, a compound resulting from the action of ethyl ether on aniline. It is a white crystalline powder, with a faint aromatic odor and a slight taste, almost insoluble in water, but soluble in weak alcohol. Dr. Sansoni, of Turin, in the *Therapeutische Monatshefte* for September, as mentioned in the *Internationale klinische Rundschau* for November 2d, gives the result of a number of observations on the action of euphorine in disease. Summing up the results of such investigation, the antipyretic, antirrheumatic, and analgesic actions seem, he says, to be inferior to those of many of the better-known remedies of the same group.

THE FIRST AUTOPSY IN NEW ENGLAND.

The *Boston Medical and Surgical Journal* has a note regarding the first post-mortem performed in New England. It recounts the pathological examination of the body of a child, eight years old, Elizabeth Kelly by name, who died in March, 1662, at or near Hartford. The child undoubtedly died of some acute disease, but there was a charge of witchcraft about it, the death being imputed to the malign influences of the goodewife Ayers, as a witch. This good lady and her husband were compelled to flee from their home lest they be made to suffer the penalty of the charge, which was hanging. They left behind them a child, who became the ancestor of one of the present families of Hartford. This event was recently brought to light by Mr. C. J. Hoadley, librarian of the State Library of Connecticut, and made the basis of a paper read by him before the Hartford County Medical Society.

MENTHOL FOR CHAPPED HANDS.

A writer in the *Provincial Medical Journal* offers the following: Menthol, 15 grains; salol, ½ drachm; olive oil, ½ drachm; lanolin, 1½ ounce, as a soothing application for chapped hands. The pain, he says, is at once allayed after the first application and the skin at the same time is softened. The fissures will heal promptly under a systematic use of the application once or twice daily.

CHLOROFORM OINTMENT.

Kittel, according to the *Druggists' Circular*, recommends the use of chloroform externally in the form of an ointment. For this purpose he prescribes one part of chloroform, one part of wax, and two or three parts of lard. This mixture will keep the chloroform unaltered, and, when spread upon linen and applied to the unbroken cutaneous surface, acts quickly and with certainty as a local analgesic. Its mode of preparation is simple: The wax and lard are melted together, and, when somewhat cooled superficially, poured into a bottle, the inside of whose neck as well as its glass stopper have been well greased to make it perfectly air-tight; then the chloroform is stirred in. The bottle must be kept in a cool place until the mixture stiffens, being occasionally rotated without being opened.

A CASE OF VISCERAL NEURITIS.

Dr. John Ferguson, of Toronto, reports in the *Alienist and Neurologist* the case of a woman, aged forty, who had, following an attack of influenza, the most frightful paroxysms of pain, which nothing could allay, and, despite the efforts to relieve her, died after two weeks of great suffering. Examination of the nerves and ganglia throughout the abdomen showed them to be in a highly inflamed state. Microscopically, there was marked degeneration in some of the nerve tissues. The author said that, while peripheral neuritis was a recognized condition, he saw no reason why neuritis might not affect the viscera, and that this cause might account for some of the violently painful and obscure conditions occasionally met with.

TUBERCULOUS ABSCESSES TREATED BY IODOFORM INJECTIONS.

Dr. Bullitt, of Louisville, writing from Bonn to the *American Practitioner*, speaks of the plan of treating tuberculous abscess, now used to a considerable extent in Germany, by the injection of iodoform in olive oil, one part of the former to ten of the latter. A rather large needle is used, and the pus is allowed to escape through the needle before the injection is made; but no great stress is laid on this evacuation of the pus. The injection of the iodoformed oil is then performed, varying in quantity according to the size of the abscess. This is repeated once or twice a week. Marked improvement has seemed to follow this treatment in two classes of cases, one being that of patients suffering from tuberculous testis, and the other, that of those having abscesses in the vicinity of diseased joints.

ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 16, 1890:

DISEASES.	Week ending Dec. 9.		Week ending Dec. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus fever	0	0	0	0
Typhoid fever	19	6	15	8
Scarlet fever	77	6	78	4
Cerebro-spinal meningitis	2	1	6	3
Measles	254	15	292	19
Diphtheria	114	35	113	25
Small-pox	0	0	0	0
Varicella	4	0	9	0

Gruen and Severn's Observations of the Koch Treatment in Berlin.—With some verbal changes, the following consists of extracts from a brochure recently issued in London by Mr. Edward F. Grün and Mr. Walter D. Severn:

The Liquid.—The active principle is so excessively powerful in its action that the actual maximum strength of the liquid as at first obtained would be far too great for use; the strongest solution which is actually used in the injections, even in the most extreme cases, is a ten-per-cent. dilution of this "original" liquid with distilled water, to which one per cent. of phenol has been added. The maximum quantity injected in one place is a cubic centimetre.

When the liquid is once diluted, its keeping properties are considerably diminished. Not only is it more subject to chemical change—presumably of the ptomaine in solution undergoing decomposition or rearrangement of the atoms in the molecule—but also it is nearly sure during previous operations to have derived bacterial impurities from the atmosphere or surrounding objects, so that before use each time the solution should be heated to kill any spores of bacteria which may have sprouted in the intervening time. But after a certain number of heatings it is observed that the activity is much diminished, and this is also owing probably to a chemical decomposition or change which goes on, promoted by the repeatedly raised temperature, so that freshly diluted lymph must be prepared every few days. Taken by the mouth, the liquid is absolutely inert; inhaled, it is very powerful, but in this method the dosage is so difficult to control that for purposes of general convenience and scientific accuracy it is in every way better to administer the fluid by means of the hypodermic syringe.

The Injection.—The fluid is of such an intensely active nature, so prone to undergo decomposition through careless manipulation, that almost certainly, unless careful antiseptic precautions are observed, abscesses of excessively severe nature, with or without general pyæmia, or even fatal septicæmia, would result. The antiseptic precautions necessary are the following: First, the syringe must be carefully sterilized; second, the place where the injection is to be made must be washed with absolute alcohol (the hands of the operator after well washing should also be rinsed with absolute alcohol); and, third, the cotton-wool plug in the tube of diluted liquid ought only to be removed for so long a time as will allow a certain quantity to be removed by the syringe, and then quickly replaced. The needle must be cleansed before and after every operation with the silver wire and absolute alcohol. The injection must be made on the opposite side to that on which the patient habitually lies, below the shoulder blade, in the region of the latissimus dorsi; otherwise the subsequent local tenderness interferes considerably with sleep. The injections are preferably made early in the morning; 9 A. M. is the time adopted in Berlin, and would be a good hour at all times. The weakest injections must be begun with a solution of such strength that on injecting a cubic centimetre the patient shall receive 0·001 of the strong original liquid. The temperature must then be observed every four hours, in order that the time when the reaction sets in (usually in six hours) may be observed, and that any other results of this reaction may not escape notice. When no further injection reaction sets in the strength of the solution must be increased, for the reason that, if a strong solution is at first made use of, the reaction is great, but a tolerance is the sooner established and the succeeding treatment produces little or no benefit. This does not, however, apply to lupus cases, where a solution as strong as 0·01 may be begun with at the first trial. In injecting, the needle must be pushed right home, and the fluid slowly forced in and allowed fully two minutes for its total expulsion.

The Effects of the Injection.—The effect of the injection used for the first time is to produce in the course of about three hours, according to the nature of the case, a decided rigor followed by a fairly sudden rise in the temperature, which, as exemplified in a case, rose from 98·2° F. at 3 P. M. to 101·8° at 6 P. M., and at 9 P. M. to 104°—sinking again by morning to 99·2°. If the case presents a local lesion of tuberculous nature, this lesion swells and becomes tender, and the skin over it becomes somewhat inflamed. The patient feels drowsy, disinclined to stir, and nauseated, and loses his appetite for the time being. In cases of advanced phthisis the temperature has risen to 105·8°, fatal collapse has come on, and, the temperature sinking, the patient has died. This has only taken place in cases of very advanced phthisis with cavities. The temperature often becomes subnormal, and it may be stated that the higher the temperature of the reaction the lower will it subsequently fall. An increase in the dose by no means always produces an increased temperature, but it is advisable to begin with the lowest possible dose, otherwise the limit of dosage is soon reached, and the patient becomes tolerant. It does not, however, follow that because the patient becomes tolerant and no reaction follows, the injection ceases to produce benefit, although the physicians treating the cases at present are rather inclined to adopt this view. The rapidity of the pulse rises considerably during the reaction, and often reaches a rate of 130 or 140 to the minute. Dr. Köhler has reported it as having gone up as high as 160 without failure of the heart's action. Where patients have previously suffered from asthma an attack often sets in during the reaction. Other patients who had not previously suffered from asthma have been troubled with some dyspnœa during the reaction. At a meeting of the Berlin Medical Society on November 20th two cases were shown where a well-marked exanthematous rash appeared over the front of the chest, the legs, and the arms, which rash lasted about two days.

In cases of phthisis, when an injection is made, there are an increase in frequency of the cough, more distress with the same, and a feeling of restlessness and shortness of breath; at first the patient feels undoubtedly worse, and there is occasionally some slight collapse, which, if necessary, must be treated with the free administration of stimulants—in short, the patient must be watched. The intensity of the reaction is in ratio to the stage of the disease; in the advanced cases the reaction is so great as occasionally to produce dangerous symptoms, and these cases must be treated with very dilute solutions to insure perfect safety. When there has been a previous elevation of temperature, what is called a "disease fever" (*Krankheitsfieber*), the reaction rise is marked, and there then follows a fall which includes both the reaction temperature and the disease fever. The sputum becomes much more fluid, loses its yellow color, and diminishes in amount, being at the same time much easier to expectorate. The cough becomes softer and moister. The patient begins to improve in weight. The bacilli undergo an early diminution in numbers and also an alteration of form when seen under the microscope, many slides exhibiting these changes in a marked degree. The special changes are a lessening of the size, a breaking up into *débris*, and a bending into a half-moon shape, some exhibiting a swelling at either end; not only is this noticed in one or two of the specimens on the slide, but the whole slide is in this condition, a healthy, well-developed bacillus being difficult to find—in other words, the bacilli evidently undergo a species of degeneration. Sufficient are probably left, however, to form a fresh nidus of infection if the treatment were discontinued at this stage, and it must be assumed that it will in all cases be necessary to continue the treatment until the sputum is entirely free from bacilli. The influence upon the percussion-note is well marked. In some cases the dullness has been found much diminished in area. The crepitation disappears. The night sweats entirely disappear in most cases after the first fortnight, and this may account for the increase in weight.

The Local Reaction.—In lupus the first effect is to produce within three hours a feeling of burning, tightness, and heat over the face and nose, and at the time of the commencement of the rigor the nose becomes noticeably reddened. In six hours the swelling and redness reach their highest point; they are not confined to the affected part, but implicate the skin for some distance around; at about the same time there is an ample exudation of a yellow fluid similar to that found upon an eczematous surface, which dries into crusts upon the surface. The exudation continues for about forty-eight hours. After two days the redness and swelling begin to subside, and after five days are only apparent upon the affected part, and even this becomes considerably paler during the following three weeks. Five days after the injection the scales begin to dry up and fall off. On the ninth day they may be taken freely off their bases. The affected part now appears quite shrunken, red, and shiny, just as those parts of a lupous patch appear which have been treated with a Volkmann's spoon. After a certain number of days the swelling of the nose subsides, and the organ regains its natural shape and outline; however, a number of small tuberculous spots remain, most of them of about the size of a pin-head, forming a soft red prominence whose center often carries a small scale. These spots, in a case under observation, increased considerably in size before the day of the second injection. The second injection was made twenty-seven days after the first, and repeated three times at intervals of two days. After each injection, redness, swelling, and exudation took place, although not to the same intensity as the first time. At the time when the patient was shown, the swelling and scaling had still not completely finished. In one case exhibited, some tubercles imbedded deep in the skin had so far resisted the treatment, and Dr. Köhler gave it as his opinion that this resistance was due to the thickness of the elastic tissue of this part of the skin preventing the outlet of the exudation to the surface, and thought it highly probable that absorption of the masses would take place. The only example shown in which an absolutely complete cure had been established was that of a woman on whom Volkmann's spoon had been freely applied before injection. This rather spoiled the scientific value of the evidence it supplied. In a case of enlarged tuberculous glands, after injection, swelling and pain took place at the seat of enlargement. At the same time all the enlarged glands were not equally affected; some of the glands became very enlarged and painful; others were not nearly so much, if at all, affected.

Dr. Abbe's Case of Gonorrhœa in a Child.—In the history of this case, published in our last issue, on page 666, the strength of the solution of corrosive sublimate employed as an injection was erroneously stated as 1 to 8,000. It should have been 1 to 80,000.

The Medical Society of the County of Kings held a reception on Friday evening, the 12th inst., at its rooms, in Bridge Street, Brooklyn.

A Public Bath-house is to be built by the New York Association for Improving the Condition of the Poor, on land in Broome Street given for the purpose by the City Mission and Tract Society. It is announced that the house will be built after plans prepared by Dr. Simon Baruch.

The Ravages of Epidemic Influenza.—Dr. Benjamin Lee, secretary of the Pennsylvania State Board of Health, has reported to his board an estimate of the extraordinary losses of life by influenza during the recent epidemic. The number of cases in the State was probably not less than 1,120,000, and the number of deaths was 7,880, or at the rate of one death in every 142 cases.

The Turin Academy of Medicine.—The subject chosen by the Academy for the Ribieri prize is Researches on the Nature and Prophylaxis of the Infectious Diseases of Man. The value of the prize is 18,000 lire, over $3,500. It is open to international competition, but the competing essays are limited to the three languages, Latin, French, and Italian.

Leprosy at Cape Breton.—Two more cases of this disease have been discovered near Lake Ainslie, at Cape Breton. The patients are women who have until quite recently mingled freely with their neighbors. The attention of the Government has been called to the question of the greater or less latency of leprosy among certain families at the Cape, with a view to the isolation of all residents discovered to be leprous.

Changes of Address.—Dr. Peter J. Gibbons, from Pittston, Pa., to No. 324 Warren Street, Syracuse, N. Y.; Dr. H. N. Vineberg, to No. 167 East Sixty-first Street.

The Death of Dr. Glover Perin, of the Army, is announced as having taken place at his home, in St. Paul, Minn., on Monday, the 15th inst. Dr. Perin served in the Mexican War and in the War of the Rebellion, and afterward as a medical director. Three years ago he was retired with the rank of colonel.

The Death of Dr. William N. Hibbard, of Chicago, on October 29th, is thought to have been due to ptomaine poisoning consequent upon the ingestion of oysters. He was one of the junior attachés of the Chicago Medical College, and a young man of brilliant promise.

The Death of Dr. Sidney Allan Fox, of Brooklyn, occurred on December 10th. He was thirty-three years old, a native of Kentucky, a graduate of Bellevue Hospital Medical College, and an ex-interne of Charity Hospital. He had lived in Brooklyn since 1882, and was widely known as a specialist in diseases of the throat and nose. He was largely instrumental in the inauguration of a special hospital for the treatment of those diseases.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 30 to December 13, 1890:*

SWIFT, EUGENE L., First Lieutenant and Assistant Surgeon, is, by direction of the Secretary of War, relieved from further duty and station at Fort McDowell, Arizona Territory, and assigned to Fort Thomas, Arizona Territory, where he is now on temporary duty. Par. 16, S. O. 282, A. G. O., Washington, December 3, 1890.

Pilcher, James E., Captain and Assistant Surgeon, now on leave of absence, will, by direction of the Secretary of War, report in person to the commanding general, Division of the Atlantic, for temporary duty at Fort Columbus, New York Harbor, during the absence on leave of Captain William E. Hopkins, Assistant Surgeon. Par. 3, S. O. 278, A. G. O., Washington, D. C., November 28, 1890.

Hopkins, William E., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for six months. Par. 2, S. O. 278, A. G. O., Washington, D. C., November 28, 1890.

Taylor, Marcus E., Captain and Assistant Surgeon, is relieved from further duty at Boise Barracks, Idaho, by direction of the Secretary of War, and will proceed, at the expiration of his present sick leave of absence, to Vancouver Barracks, Washington, and report in person to the commanding officer of that post for duty, reporting also, by letter, to the commanding general, Department of the Columbia. Par. 17, S. O. 287, A. G. O., Washington, December 9, 1890.

Gandy, Charles M., Captain and Assistant Surgeon, now on leave of absence, will, by direction of the Secretary of War, report in person, without delay, to Colonel Eugene A. Carr, Sixth Cavalry, at Rapid City, South Dakota, for duty with troops in the field, reporting also, by letter, to the commanding general, Department of Dakota. Par. 14, S. O. 287, A. G. O., Washington, December 9, 1890.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending December 13, 1890:*

Atlee, L. W., Assistant Surgeon. Ordered to examination preliminary to promotion.

Martin, H. M., Surgeon. Placed on Retired List, December 4, 1890.

Alfred, A. R., Assistant Surgeon. Ordered to the Naval Hospital, Norfolk, Va.

Whitfield, J. M., Assistant Surgeon. Relieved from duty at the Naval Hospital, Norfolk, and ordered to the U. S. Steamer Chicago.

McCormick, A. M. D., Assistant Surgeon. Detached from the U. S. Steamer Chicago, and to wait orders.

Keeney, J. F., Assistant Surgeon. Ordered to the U. S. Steamer Minnesota.

Harris, H. N. T., Assistant Surgeon. Detached from the U. S. Steamer Minnesota, and wait orders.

Bloodgood, Delavan, Medical Director. Ordered to Charleston, S. C., to represent the medical corps of the U. S. Navy at the meeting of the American Public Health Association.

Ames, H. E., Passed Assistant Surgeon. Ordered as a delegate to Charleston, S. C.

Bertelotte, D. N., Surgeon. Detached from the Naval Hospital, Philadelphia, and ordered to special duty in connection with the World's Columbian Exposition.

Dickson, S. H., Passed Assistant Surgeon. Detached from the Atlanta and granted two months leave of absence.

Wentworth, A. R. Ordered to the U. S. Steamer Atlanta.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending December 6, 1890:*

Fessenden, C. S. D., Surgeon. Leave of absence extended seven days. December 4, 1890.

Bailhache, P. H., Surgeon. Granted leave of absence for twenty days. November 28, 1890.

Hutton, W. H. H., Surgeon. To proceed to Solomon's Island, Md., on special duty. November 29, 1890.

Sawtelle, H. W., Surgeon. Granted leave of absence for ten days. December 2, 1890.

Peckham, C. T., Passed Assistant Surgeon. Granted leave of absence for ten days. December 1, 1890.

Hussey, S. H., Assistant Surgeon. When relieved, to proceed to New Orleans, La., for duty. November 24, 1890.

Groenevelt, J. F., Assistant Surgeon. When relieved, to rejoin station. November 24, 1890.

Cofer, L. E., Assistant Surgeon. Ordered to temporary duty at Boston, Mass. November 24, 1890.

Society Meetings for the Coming Week:

Monday, *December 22d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *December 23d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Jenkins Medical Society, Yonkers, N. Y.; Medical Society of the County of Lewis (quarterly), N. Y.

Wednesday, *December 24th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society.

Thursday, *December 25th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *December 26th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *December 27th:* New York Medical and Surgical Society (private).

Letters to the Editor.

THE TREATMENT OF ABORTION.

Point Pleasant, N. J., *November 12, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue of the 8th inst., page 520, under the head of The Treatment of Abortion, is a communication from Thomas A. Elder, M. D., of Seaton, Ill. In referring to the use of the tampon, as advised by Professor T. Gaillard Thomas, he scores him in these words: "This is no doubt classical and *efficient* and *sufficiently dogmatical.*" I don't understand his use of the word classical, unless he may mean that it is good teaching to give to a class (referring to Dr. Thomas's lectures).

He has *no doubt* of its *efficiency*, and yet he characterizes it as dogmatical. I think the term decidedly misapplied, unless he is so ignorant of Dr. Thomas's methods as to think that he uses and recommends the tampon in all cases without regard to existing conditions, as, for example, that he would apply the tampon when the products of conception were presenting and removable through a dilated os.

He next proceeds to give *his method*, which has not failed in twenty-two years, and which is the removal in *every case* and *immediately* of all the products of conception by the finger introduced into the uterus and, if necessary, the whole hand in the vagina.

I should like to ask which is the most dogmatical. Dr. Thomas gives a method which any one of ordinary deftness can apply successfully in every case if necessary, and of the efficacy of which there is no question, the only objection to it being that it increases the strength of the uterine pains, is difficult of application, and uncomfortable to the patient, all of which, even if true, which they are not, except the increase in efficiency of the uterine pains, would not overbalance the good accomplished by its use.

Dr. Elder gives a method which, notwithstanding his statements, every practitioner of any experience in that line of work knows to be utterly impossible of execution in a great number of cases by the general practitioner, and indeed I believe by any one. Dr. Thomas has probably tried every method that could promise any assistance in such cases during his long and fruitful career, while Dr. Elder professes only to have found necessary the use of this one (his) method during all of his twenty-two years' practice. He is to be envied if such is the case.

After the uterus is emptied he gives half a drachm of Squibb's fluid extract of ergot and directs that twenty drops be given every four hours or oftener, if necessary to control hæmorrhage, for thirty-six or forty-eight hours.

He says, "I next impress upon the mind of the patient the importance of keeping quiet in a bed for a week or ten days, direct her to keep her person and bed scrupulously clean, to keep her bowels open with mild laxatives, to sit on the chamber when passing urine, and to take her accustomed food." He next gives seven reasons in support of *his* method, as follows:

"1. It is sufficiently simple.

"2. It is not very difficult.

"3. I have found no great difficulty in passing the finger into the uterus at the fifth or sixth week of pregnancy.

"4. It is the best method of arresting the hæmorrhage. It ceases or becomes practically harmless as soon as the finger passes the cervix, especially if the finger fits the cervical canal tightly.

"5. It saves the woman the hours of exquisite suffering of uterine contractions, and the pressure of the tampon.

"6. It terminates the case in about the time it would take to make ready the tampon.

"7. In a fair experience of over twenty-two years I have never met with a case in which it failed, or in which there were after-complications."

He says he never has trouble in introducing the whole hand into the vagina or in emptying the uterus afterward. The only way in which I can reconcile his statement with the facts as I find them is by taking it for granted that he lives in a community the moral tone of which is only to be equaled by that of fabled Acadia, and which never has use for, or is disturbed by, certain meddlesome old women or the professional abortionist. Consequently, all his cases have been normal cases, and that his appearance on the scene has been timed with unusual consideration; and, last, but by no means least, that he must be equipped with a perfect gynæcological hand and not have to depend, as some of us unfortunately do, on a broad hand with short, blunt pointed fingers; or else he must have discovered some method of inducing the os to dilate which I am sure the profession at large would be glad to have him explain.

Taking his reasons in order, I would say, so far as my experience goes and from what I can learn from the writings of others—

1. It is not *sufficiently* simple. I may be indextrous or lacking in experience or something, as I have found that when there was any dilating to do, it was usually anything but sufficiently simple.

2. When no dilatation, or very little, is necessary, it *may be not very* difficult. But, again, I have found it extremely difficult and often impossible, and I have found that in these same cases the tampon stopped the flow of blood and quickly brought the case to a safe and successful termination, and without any more pain than was necessary for the dilatation of the os.

3. Nor would any one find it difficult if he found it wide open always.

4. When the os is open or easily dilatable, the vagina large, the subject not very sensitive, it is undoubtedly often comparatively easy to remove the cause of the trouble with the finger. On the other hand, when the os is not soft and open, but is rigid and only open enough to permit a stream of blood to escape, I think every woman will agree with me and prefer to be tamponed with a well fitting tampon made from proper material, rather than with the hand of the physician.

5. If the os is not sufficiently open for the escape of the offending mass or for its easy extraction with the finger, then I believe that, although the os may be comparatively easy of dilatation, so far as actual pain and discomfort are concerned, the tampon is the less disagreeable and offensive to the patient, and certainly there can be no comparison by those who have tried both methods, between attempting to dilate a rigid, undilatable os with the finger and the tampon. There can be but one decision, and that emphatically in favor of the tampon.

6. If the doctor should not go prepared for all emergencies, he might be able to stop the flow by a tampon composed of a finger in the cervical canal and the hand in the vagina a little quicker than with the regulation material, but, to transpose an old saying, "to take the shortest road is not always the quickest way to get to a certain point," and it might be so in this case. The os might not be open or dilatable, and it would be unpleasant, to say the least, to all concerned to leave such a tampon in place long enough to do any good; consequently it would have to be removed and other proper measures used, either rapid instrumental dilatation or the tampon. Time would have been lost and the patient subjected to unnecessary pain and annoyance.

Before the introduction of the tampon I doubt not many of us were nearly at our wits' end many times. It is certain that we now frequently meet with cases which are wholly uncontrollable (so far as we are concerned) by the doctor's method.

I think I can speak for many brother practitioners when I say we should be only too happy if we might have so fair an experience; but, alas! it is not so.

Taken altogether, the treatment of abortion is one of the most unpleasant and unprofitable of the duties of our profession, as its successful treatment too often brings a reputation the reverse of enviable. One other point. As it takes longer for the uterus to undergo subinvolution than at term, his time is rather short and should be two or three weeks.

The rest of his treatment is not to be complained of in an uncomplicated case, but I am sure that he would be pleased with the results if he would continue small doses of ergot three times a day for three or four weeks.

I have not had so long or so fair an experience as the doctor, but what I have had tends to convince me that there is no royal road by which an abortion may always be conducted to a successful termination. At the same time, I believe the systematic use of the tampon to be as near as it is possible to get to such a method. I believe that in those cases where the doctor is compelled to dilate, it could be accomplished quicker, easier, and with less pain, discomfort, and embarrassment to the patient, by the use of instrumental dilatation with the aid of a few drops of chloroform, and also that there would be less danger of after-complications.

To sum up briefly, I would say:

1. In those cases where the os is within reach and is dilated, and the contents of the uterus are protruding, undoubtedly the thing to do is to remove the mass as speedily as possible with the finger or otherwise.

2. When the os is dilated, but not enough and soft, the best method is instrumental dilatation and removal.

3. When the os is not dilated, but rigid, and is giving forth a stream of blood more or less regular and large, unless there is

some special reason for haste when instrumental dilatation may be advisable, the tampon is *the* remedy for the arrest of the hæmorrhage, and also for the safe and rapid dilatation of the os and expulsion of the offending mass.

F. Whitaker, M. D.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twelfth Annual Congress, held at Baltimore, on Thursday, Friday, and Saturday, May 29, 30, and 31, 1890.

The President, Dr. John N. Mackenzie, of Baltimore, in the Chair.

(*Continued from page 363.*)

A New Operation for Deviation of the Nasal Septum, with Report of Cases.—Dr. Morris J. Asch, of New York, read a paper on this subject. (See page 675.)

Dr. J. C. Mulhall said: I am very much interested in this subject, for one reason at least, because we have in our city (St. Louis) the gentleman who first introduced the instrument which is generally used for overcoming the resiliency of a deviated septum. I refer to Dr. Steele, the inventor of Steele's forceps. I have performed a number of operations, some fifteen or twenty, with this instrument, and I may say that I have not been entirely pleased with it. I am therefore much interested in Dr. Asch's operation, which promises so much from a single incision of the septum, while Dr. Steele's forceps makes six incisions. One objection to the latter is that at the center of the crucial incisions a perforation not infrequently results, upon which crusts form, to the great annoyance of the patient. In maintaining the septum in position after operation, I have found nothing answer the purpose so well as a small rubber nipple, adapted to the size of the nostril and stuffed with cotton, so as to accommodate it to the cavity. This is the best plug to retain the septum in proper place. With regard to the recurrence of the stenosis, I may say that I have been uniformly successful in establishing breathing through the stenosed side by this method.

Dr. Jarvis: The remark with regard to the occurrence of perforation leads me to say that, some time since, I constructed a modification of Steele's forceps which makes six radiating incisions, but leaves an uncut island in the center, thus avoiding the accident just referred to. I have not published a description of the instrument, but it is figured in Reynders's catalogue. In this connection I might call attention to a suggestion concerning the after-treatment. Finding that plugs of hard rubber, glass, ivory, or gauze gave rise to pain and irritation, I have abandoned all internal splints and devised an external nasal splint, coated with very soft leather, or a soft kid pad containing metallic mercury, which have given just as good results without intranasal irritation.

Dr. Ingals: The operation proposed by Dr. Asch is not new, but is a modification of the usual plan of treatment. The late Professor Moses Gunn, of Chicago, was accustomed to make a crucial incision through the greatest convexity of the cartilaginous septum, making the incisions obliquely, and then forcing over the segments and retaining them by means of a rubber tube passed through the obstructed side. When the septum is bent nearly horizontally across the naris, I still prefer the removal of a triangular piece, so as to allow it to fall into proper position, as recommended in my paper read at the Boston meeting of this association. When there is simple bending, with little or no hypertrophy, I use a small trephine, 3 mm. in diameter, with which I remove beneath the mucous membrane three or four cylindrical pieces from the convex portion of the septum, sufficient to completely destroy its resiliency. It is then comparatively easy to place the septum in its normal position and keep it there with some kind of splint. My own custom is to introduce into the nasal chamber of the affected side a pledget made with a long strip of antiseptic gauze saturated with a thick mixture of tannin and water. The other nostril is left open. Twenty-four hours afterward I have the pledget removed, and then cleanse the nose and insert a tube made of gutta-percha, molded to fit the cavity. This should not be large enough to cause the patient discomfort. I use the ordinary sheet gutta-percha employed by dentists, which may be easily molded when warm to suit the requirements of each case. It has proved to me more satisfactory than either ivory, soft rubber, or any of the rigid clamps, and it is infinitely superior to cotton, which not only fails to keep the septum in proper position, but speedily becomes offensive.

Dr. Roe: This method seems more particularly directed to the cartilaginous septum. A somewhat similar plan which I have followed is to make an incision on the convex side in the direction of the greatest convexity, either vertical or diagonal. Then, taking an Adams's forceps, I bend the septum forcibly over to the opposite side until, when left to itself, it keeps a perfectly straight position. Upon the side of the convexity is placed a plug, consisting of metal covered with absorbent cotton. After all hæmorrhage has been checked, I thoroughly disinfect with iodoform, and then introduce a plug as large as can possibly be put into the nostril, adding sufficient absorbent cotton to keep it in place. No plug is placed on the opposite side. The plug should be as wide as the nostril will permit, and, by dipping it in a 1-to-2,000 solution of bichloride of mercury, it is kept thoroughly aseptic. It may be left in position for from four to six days; if necessary to renew it, the same method is followed. When there is deviation also in the bony septum, I break that up with a forceps, and afterward keep the septum in place in the manner described. I have found that these soft plugs are far better than the hard ones, either of rubber or of metal, which are very apt to cause destruction of the mucous membrane by pressure. In the cases of deviation of the bony septum there is almost always an ecchondrosis or an exostosis on the convex side, which must be removed. For this I generally use the nasal saw, so that the septum is of the normal thickness before attempting to restore it to its normal position.

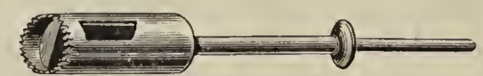
The President: With reference to the principle of this operation, it is of course old. As I showed in a communication presented some years ago, it was first suggested by Bolton, of Richmond. Dr. Bosworth gives Chassaignac the honor, although I can not see why he should. With regard to Steele's forceps, I have used it a good many times and have not been satisfied with it. I find that it does not cut through the septum. The only forceps made on that plan that I use is that made by Gemrig, of Philadelphia, which is called Steele's forceps, but is really a modification of the original. This is the only really practical instrument I have ever used. I invented an instrument myself which cut through the septum, but it was very difficult to get out of the nose, especially where the patient was a little unruly; I afterward discarded it for the instrument made by Gemrig.

This class of cases is one of much interest. In some you will operate, and in the course of a few months the patients return in just as bad condition as before. Therefore any operation which promises the restoration of the septum to the median line should be well received and carefully tried. Dr. Asch's paper is very well timed and his method is worthy of trial.

With regard to Dr. Jarvis's external nasal splint, I am sorry to make an unfavorable report. It has not proved satisfactory in my experience. The plug seems necessary, and yet I have comparatively rarely seen a patient who could endure it for six days or more, as some advise. So early as the second day there is profuse secretion, more or less purulent, and the patient begs to have it out. There is no need of plugging both nostrils. I have tried all kinds of plugs, and generally remove them the day after they are introduced. I think that absorbent cotton with glycerin or vaseline is about as good as any you can get for this purpose. In children it is infinitely superior to the ivory plug. I have had one case in which the introduction of an ivory plug caused convulsions of the corresponding side of the body. This phenomenon was repeated several times. On this account I was obliged to abandon the use of the plug, and I recommended in place of it pressure by the little finger inserted into the nostril to push the cartilage over and keep it in the median line. By doing this frequently, the patient obviated the necessity of using the plug. The cutting of the septum is really the smallest part of the treatment; it is necessary to retain the septum in place, and the after-treatment presents the real difficulty, and is often the cause of failure. Orthopædic appliances are of but little value here.

Dr. **Langmaid**: It does not matter so much how you break down the septum. The problem is analogous to that presented by a case of hare-lip, to prevent the recurrence of the deformity. You may adopt any operation, but the septum must remain in the new position or the operation will be a failure. In order to prevent recurrence, I insist that the operation must have the result of destroying the resiliency of the deviated septum, so that it will, of itself, remain in proper position without being held there by a plug or splint. I must bear testimony to the value of the black rubber-nipple plug stuffed with cotton. In small children a very small plug may be used, and it need not be soft: but in older children it may be filled with cotton and iodoform and answers the purpose very well In addition, the expedient mentioned by the president—of making pressure with the finger—is useful, the patient being instructed how he may aid the treatment by inserting his little finger several times a day. In many cases a purulent discharge is set up, and there may be neuralgia and other nervous symptoms. The size of the nostril should be borne in mind in making the plug so that it will go in easily; as the septum will remain in place, there should be no pressure and no pain or inconvenience.

Dr **Jarvis**: With regard to the external nasal splint, I would only add that, although I have used it in a number of cases, I have lately discarded it in favor of a new crown drill, which quickly cuts away the septal distortion. I agree with the president that orthopædic appliances are out of place in intranasal surgery. The rule is always to remove sufficient tissue to give plenty of room. By using transfixion needles to guide the drill, I avoid perforating the septum. If there is an exostosis, I riddle and remove it; if I can not get sufficient room by this procedure, I take away part of the turbinated tissues or bone.



Dr. **Bosworth**: I must compliment Dr. Asch for presenting a most ingenious intranasal splint. It corrects not only vertical displacement, but horizontal displacement as well.

In reply to the last remark of Dr. Jarvis in regard to removing the turbinated bodies, I wish to ask if it is not unjustifiable to remove an important organ of the body simply for the purpose of admitting air through the nose? The object of the treatment is to restore normal function, not to straighten a deviated septum. I deny that it is primarily for the purpose of giving more breathing space. It is not justifiable to remove this organ, the functions of which are for the time not hampered, any more than it would be justifiable to remove a kidney for functional disorder. I do not admit that the primary object is to admit more air; that idea is based upon an entirely erroneous conception of the purpose of the operation.

Dr. **Jarvis**: The primary object is not cosmetic; in my mind it is to remove an obstruction and afford more breathing space.

Dr. **Mulhall**: I wish to say a word in defense of Steele's forceps. The objection has been raised that it does not cut through the septum. It is evident from the discussion that the gentlemen have been talking about two entirely different things, a deviated septum and a thickened septum. Steele's forceps will not pass through a thickened septum, it is true. When I get such a case, I first treat the hypertrophy and reduce the thickened septum to its normal size, and then apply the forceps, and find no difficulty in making the blades meet. Then, again, the Chair has stated that there was a great tendency to recurrence of the deformity after operation. This is true, but I have never seen the recurrence complete. After the cutting I push the septum over and make it project upon the opposite side, using the handle of a tooth-brush to force it over. I then plug the affected side with a rubber nipple stuffed with cotton. There may be some return, but never to the original extent.

Dr. **Ingals**: As intimated by the author, the secret of successful treatment is, destruction of the resiliency of the septum during the operation, which renders the after-treatment simple, but if this is neglected the patient can not tolerate suitable plugs or splints, and imperfect results must follow. I have had patients wear tubes of gutta-percha from four to six weeks without discomfort, and I have found the results of the operation very satisfactory. Where there is great thickening of the septum with deflection the excess of tissue must be removed.

The **President**: I did not mean a thickened septum, but in ordinary cases of deformed septum I have used Steele's forceps and could not get it to close. I could not cut through thick paper with Steele's forceps, but with other forceps I cut through six thicknesses of chamois skin.

Dr. **Daly**: The object being to get rid of the resiliency of the septum, it can be accomplished with Steele's forceps. I have never experienced any difficulty, but I do not satisfy myself with a single cut; I make two or three incisions irregularly in the septum to break up the cartilage. The fact that the cutting blades of the forceps do not perforate the septum is an advantage. The operation should not be done too early in life. If we wait until the patient is old enough to appreciate the importance of the operation and co-operate with us in our after-management, we shall usually be successful.

Our success in operating depends sometimes upon very simple things. I wish to show my plan of plugging the nostril. Take some absorbent cotton and make a little roll about as large as my middle finger; around this wrap some ordinary grocer's white cotton cord from one end to the other in a long spiral. Now, if we fold this in the middle, and, after tying the ends, apply vaseline, with a styptic or antiseptic, and carry it deep into the nasal chamber, the ends with the cotton twine are external and may be cut off. When it is desired to remove the plug, it is only necessary to pull both ends of the cotton string and it comes out entire with the cotton plug in its embrace. I have found this expedient a great saver of time and trouble. I have also used it in cases of nasal hæmorrhage. It can be dipped in iodoform or some styptic, if desired. I consider it a very good point in practice.

Dr. Holden: As the discussion is upon deviated septum, it may be of interest to present a case illustrative of the difficulties one may encounter from recurrence. It is that of a young lady, an artist, of fine appearance, but who unfortunately had a seriously deviated septum. She was very much annoyed by it and was willing to submit to any operation for its correction provided there should be no perforation. The septum was thin and rather mobile, and crackled like parchment under the finger when it was moved. It was so thin that I feared a cutting operation might produce a perforation. With a periosteal elevator the cartilage was set over and retained with an antiseptic cotton compress. In three months' time the deviation had recurred. I then repeated the operation, forcibly pressing the septum over to the opposite side. The relief was all that could be desired, but in two months there was again deviation. She was resolutely determined to have the deformity corrected, and I now made two semi-lunar incisions and removed an ovoid piece of the cartilage by careful dissection, and used compresses as before. The deformity returned. The redundant portion of the (fortunately now thickened) septum was sawed off without perforation. The result was good for several months, but she returned just as bad as she was before. I then resorted to Steele's forceps, crushed the septum at two points, set it over in place, and also crushed the osseous septum at its junction with the cartilage, making in all three incisions. An ivory plug was introduced slightly hollowed out on one side for the turbinated bone. This was wrapped with a very thin film of bichloride cotton. She wore this ivory for five days before removal, and continued to wear it altogether for five weeks. The result is satisfactory save that there is some projection at the base of the cartilaginous septum, which may yet require another operation by saw or drill.

Dr. Asch: I feel very much pleased that the paper has provoked so much discussion; it shows that I was not mistaken in my estimate of the importance of the subject. Part of the discussion, however, seems based upon a misunderstanding of my remarks, or perhaps I may not have expressed myself clearly. I said that the success of the operation depended upon overcoming the resiliency of the septum, and placing it in proper position. The resiliency being overcome, the splint is introduced, which causes no irritation; the nostril is plugged lightly; there is no trouble whatever, and in a very few days the parts are healed. With regard to Steele's forceps, it was owing to my failure to succeed with that instrument that I was led to devise these scissors. I found that it did not completely penetrate the cartilage. In the plan of operating recommended by Dr. Jarvis, the resiliency of the cartilage is not overcome, and the deformity will therefore be reproduced. With reference to his criticism upon the plug, I may say that I never experienced any difficulty arising from it, or observed any signs of septic infection.

The Early Diagnosis of Malignant Disease of the Larynx.—Dr. D. B. Delavan read a paper with this title. (See page 508.)

The President: This is an exceedingly important subject. Upon the early diagnosis the life or death of a patient may depend.

Dr. Daly: This subject is certainly an important one—not only involving questions of diagnosis of a very interesting character, but the safety and happiness of our patients. I may say at once that I am not very favorable in these cases to much interference unless of a radical surgical character. I think that there comes a time when a benign sore becomes irritated by harsh interference, and, where the conditions are predisposed, may be made malignant by such harsh interference. We want to learn more about this point and how to avoid this dread evil. I have no very pronounced views of treatment, except that I am not an advocate of extirpation of the larynx; it is a ghastly operation, the result is not happy for the patient, and statistics do not prove that it is justifiable.

Dr. Ingals: I would ask what the difference is in the appearance of the parts, in transillumination of the larynx, between a benign and a malignant growth.

Dr. Delavan: The only use to which transillumination can be put is to demonstrate a cloudy area around the growth corresponding with the amount of infiltration, which, of course, would not exist in benign lesions. In the normal larynx the electric light transmitted in this way gives a rosy illumination of the parts with a certain definite distribution of the lights and shadows. If one side of the larynx is invaded by a growth, and its appearance is contrasted with that of the healthy side by transillumination, the difference will be perceived. Where there is exudation or infiltration, the conducting power of the tissues is much diminished. Of course, by this method no fine diagnosis is possible, but it may be of some assistance in making a diagnosis between a simple condition of tumefaction and the actual presence of a new growth, although, of course, other means would be required to confirm it. It would determine whether the transparency of the tissues is normal, and, if not normal, the extent of the lesion. The mode of applying it is very simple. An electric lamp is attached to a cylinder of solid glass which may be as long as convenient, two inches being sufficient. The light is focused at a spot at the end of the cylinder, which is placed directly against the larynx, externally to the point to be examined. A lamp of three or four candle power will afford a brilliant illumination. Of course, the relative thickness of the wall of the neck will affect the light, in a stout person the amount of light transmitted being less than in a thin one. The light being placed directly below the cricoid, a good illumination is afforded in average cases.

Dr. Ingals: Would the transillumination of a malignant growth make it appear very different from a benign tumor? I can see that there would be a difference, for instance, between a cyst and an ordinary infiltration, but I can not understand why there could be much difference in appearance between a simple inflammatory exudation and malignant disease. I am much interested in the discussion of the early diagnosis between lupus, syphilis, and malignant disease, because of a case that I saw early this past winter. The patient, about twenty-two years of age, married, came to me breathing with much difficulty, the right ventricular band much thickened, the cord scarcely visible, owing to the swelling above it. I introduced a large-sized O'Dwyer tube, which she wore for several days; I then removed it, and breathing was perfectly easy. I afterward examined her larynx and found two or three small nodules protruding from the ventricle, having the appearance of a papillary growth. The patient afterward had *la grippe*, followed by typhoid fever. I did not see her again for two or three months, during which time tracheotomy had been performed. When she returned there were no distinct nodules at the orifice of the ventricle, but general thickening of the right side of the larynx, particularly in the region of the false cord, which might have been accounted for by a simple benign growth within the right ventricle.

The difficulties of diagnosis are well illustrated by a case that I treated some years ago, that had been under the care of the late Dr. Elsberg and another prominent laryngologist, I do not remember whom. One had pronounced it a cancer, the other not. I found extensive thickening which certainly had a malignant appearance. No possible evidence of syphilis could be found. The iodides were tried, though without much effect.

He remained in much the same condition, and I think is still living.

Dr. Holden: I should like to ask if I understood the author correctly in stating that one of the points of diagnosis was that the zone of redness surrounding the growth was characteristic of malignancy. I recall the case of a gentleman who came to me some time ago, and entirely recovered after antisyphilitic treatment. The character just mentioned—of a zone of redness—was well marked in this case. I have seen other cases in which the zone of redness existed in non-malignant growths.

Dr. Asch: My experience is that cancer of the larynx is comparatively infrequent; but I can not recall that in the cases I have seen there was, as a rule, any diagnostic peculiarity in the appearance at the outset. There is nothing to indicate malignant disease. There is first swelling in the larynx without any redness, and no change in the external appearance of the mucous membrane. Most of my cases were well developed when they presented themselves. I usually fall back upon the classical way of diagnosis by treatment. If the growths yield to syphilitic treatment, they are not cancer. If we could diagnosticate these cases early, it might be possible to save life by operation. I do not understand that Dr. Delavan gives anything which enables us to make this early diagnosis except the reddened zone of infiltration. We can exclude lupus and tubercle, because in them the appearance of the mucous membrane is changed and they are located differently. The cases of cancer I have seen have not occurred in the posterior part of the larynx, but elsewhere.

Dr. Mulhall: I wish to corroborate the point made by Dr. Daly, which is of great interest. I have had two cases of cancer of the larynx, which greatly improved under iodide of potassium for a time. I also wish to remark that we should be very careful of our prognosis in cases of suspected cancer of the larynx. I recall a case seen by an eminent laryngologist and pronounced a case of undoubted malignancy. There was paralysis of the muscles of the larynx, aphonia, the patient was losing flesh, and strength was failing. I saw the case a year later. The patient came to me completely aphonic with this same growth. The treatment proved that it was a case of chronic laryngitis, limited to one side. The treatment consisted in applications of solid nitrate of silver for the reduction of infiltration, and the galvano-cautery to the growth. Her voice returned, and she went home much relieved in body and mind Therefore I remark that we should be careful in the diagnosis of cancer of the larynx. I quite agree with Dr. Daly that the operation of extirpation of the larynx is unjustifiable.

Dr. Swain: I wish to remark upon the infiltration and the consequent immobility of the parts involved as a point in the diagnosis of malignancy. In a recent case which I recall there was a diagnosis to be made between cancer of the larynx and infiltration due to perichondritis or tuberculosis. With very little hesitation, owing to the mobility of the parts and non-involvement of the vocal cords, I decided that it was non-malignant. The subsequent course of the disease showed it to be a simple perichondritis with abscess, which was evacuated, and the patient is now better.

Dr. Bosworth: It is very interesting to listen to a paper which considers practical points, such as diagnosis or treatment. In addition to the points mentioned, there is yet another which has not been named—it is the diagnostic instinct which enables us to look at the case comprehensively and say that this is a case of cancer, or this is not malignant.

Dr. Langmaid: Some years ago I supposed that cancer of the larynx was comparatively frequent. I do not now believe it to be rare. Two diagnostic points occur to me which may be of interest. When you see the growth early you find infiltration, the lumen of the glottis is diminished, and its general aspect is changed. The other point is the occurrence of a stabbing pain in the ear; it comes early in the disease.

Dr. Daly: A further word I would say with regard to a subject of importance to laryngologists. It is a word of injunction as to the use of irritating local applications while the case is still being studied. I have in mind a very glaring case of malpractice where the patient was burned with the galvano-cautery every day for seven or nine days, sufficient of itself to develop cancer of the larynx, where the germs were already budding. If our case is one of cancer of the larynx, irritating measures short of total destruction or extirpation of the affected tissues do no good; if it is not cancer of the larynx, we have only to await developments. But if interference is practiced, let it be by early ablation or extirpation of the suspected tissue, and only by the knife and not the cautery.

Dr. Ingals: With regard to the treatment of cancer in the throat, I have been fully convinced that the application of carbolic acid, tannin, and glycerin has given much relief to patients for whom at best we can do but little. I think that, applied in this way, tannic acid hardens the tissues, and thus prolongs the anæsthetic action of the carbolic acid. I use for this purpose a combination of morphine four grains, tannin and carbolic acid each thirty grains, in four drachms each of glycerin and water.

The President: During this discussion the question of the rarity of cancer of the larynx has come up. As far as my own experience goes, I have seen very few cases in this city (Baltimore), but abroad, especially in London, it seems to me that the disease is more common. With regard to extirpation of the larynx, I do not think it an unjustifiable operation, because many lives have been saved and prolonged by it. The startling results in the experience of Hahn make us believe that we may have to look upon this operation as one to be more frequently used than it is to-day. There is one form of hypertrophic laryngitis where the membrane becomes very much thickened. Such a case might possibly be mistaken for incipient carcinoma. The fibroid degeneration of the larynx in tertiary syphilis might also be mistaken for the early stage of carcinoma, especially as on this affection the iodides do not have the slightest effect. These cases drift on to the performance of tracheotomy as the only hope of relief. In such a case, if ulceration takes place, the lesion might very readily be taken for cancer, and this mistake has very probably been made. One feature which increases the liability to mistake is the early swelling of the lymphatics of the neck. We all know that the main rendezvous for the lymphatics coming from the larynx is at the cornua of the hyoid bone. Strange to say, even in some of the worst cases of tuberculosis of the larynx, and of syphilis of the larynx, these glands have not been found affected. When enlarged, they can readily be felt by deep pressure in this locality. They become enlarged in cancer of the larynx at a very early day more frequently than is generally taught. Although this is not diagnostic, yet if I found in a suspicious case, at the cornua of the hyoid bone, a mass of enlarged indurated glands, I should consider it probably malignant. An old gentleman was brought to me the other day for me to decide upon the propriety of extirpation of the larynx. The diagnosis was very difficult, and lay between cancer and tuberculosis. Something in the appearance of the growth suggested the idea of malignancy. His physician reported to me that he had also a cavity in the apex of the right lung. He had a number of glands enlarged in the superior cervical triangle, exceedingly hard and flattened. Tracheotomy had been performed, but the tube had been removed, as the obstruction had become less since the operation.

On the strength of the appearance of the larynx and the nodules on the outside, I made a diagnosis of cancer of the larynx with bronchial dilatation on the left side, asking for two weeks' time in which to change it if I thought fit after further observation. I also warned against the danger of sudden œdema, and advised a second tracheotomy. I am now awaiting developments.* The case is hopeless in any event, and the proposed operation is out of the question. We do not know how far the infiltration may extend, and even extirpation of the larynx might fail to remove it all. Any growth proceeding from the ventricle upon either side is a suspicious one, for this is the most frequent mode of invasion of the larynx by malignant disease. I think that Dr. Daly is a little too severe upon the use of the galvano-cautery. It certainly destroys tissue.

Dr. Daly: Not necessarily; it depends altogether upon how it is used. It will at a white heat destroy tissue, but at a dull cherry-red heat it only stimulates and is not caustic; its action is only superficial. The parts become the seat superficially of an acute inflammation which is rapidly followed by absorption.

The President: I am thoroughly in accord with Dr. Daly about the harsh treatment of any disease, whether seated in the larynx or not. One point of historical interest I might refer to; Voltolini is supposed to have been the first to suggest transillumination of the nasal cavities and the antrum of Highmore. I would call your attention to the fact that the second year that I was a member of this society I proposed this method. Two years before, the S. S. White Dental Manufacturing Company, of Philadelphia, had submitted to me, for examination, an instrument for transilluminating the larynx with an electric lamp. This instrument had been before the public for some years, and was in use by American dentists to detect caries of teeth by transillumination. I am not positive whether or not this had been used for the antrum of Highmore, but it certainly had been used for examining the mouth and teeth. The suggestion was made that it might be useful for transillumination of the larynx. I did not think that it possessed much value for the larynx, but thought that it would be valuable in examining the nose. It was a small Edison light which gave the illumination. As a result of my observations, I proposed this method in the diagnosis of antral disease and deep-seated lesions in the nasal passages. I might also say, in justice to another member of this society, that at the same meeting Dr. Carl Seiler, of Philadelphia, said that he had tried this method of illuminating the larynx, but that he had given it up, I believe, because it burned the patient's throat.

Dr. Seiler: My objection was that there was no shadow, as in the ordinary method of illumination, and the distinction between projecting parts and the rest of the larynx was lost. The whole inner surface glowed with a dull-red light, which was not sufficient for careful examination.

The President: I simply mentioned these facts to show that Voltolini was not the first to pursue this method of examining the larynx and nasal passages.

Dr. Delavan: The object in bringing this communication before you was simply because, of all the practical observations resulting from the searching investigations lately made in this department, these alone seemed to be of any value. Thickening and infiltration are certainly of diagnostic value. The reddened zone, a point to which attention has been called by several German writers, and which I also have observed in several cases, is not without a certain amount of significance. My intention, however, was simply to bring it forward for discussion and consideration.

With regard to extirpation of the larynx, its success depends very largely upon the selection of the case and upon the operator. Some few men can perform it and do it well, whereas with others failure seems to have resulted from lack of experience in the operation itself, or from lack of care in the after-management of the patient. In the case I have referred to the patient lived for several years and was comfortable. Several years ago, before the statistics of recent operations had been published, Dr. C. H. Knight, of this association, read a paper in which he stated that the propriety of the operation must be decided by the statistics. Since then statistics have accumulated, and we are in a better position to judge as to the actual value of the operation.

The points of diagnosis which I referred to were not positive but suggestive. There is, as has been said, a training of the observation by which we may be enabled to strongly suspect malignancy without being able to say upon what the opinion is based—something about the locality and appearance which stamps its character upon it.

With regard to the astringent applications mentioned by Dr. Ingals, I have found them of decided value; they afford great relief to pain in swallowing, and I think that they sometimes delay the development of the growth. They can not have much effect upon the deeper portions, but they appear to harden the surface and protect it. I have seen a great many cases of cancer of the larynx in the last fifteen years in private and hospital practice, and believe that in our city (New York) it is not such a very rare disease. The swelling of the glands of the front of the neck which has been mentioned may be found in other lesions. It may be absent in cancer, especially early in the case. Finally, if the paper has succeeded in demonstrating the poverty of our resources in the early diagnosis of laryngeal cancer, and if it will serve to stimulate investigation in this direction, it will have been of some use. Certainly, little substantial has been learned from the much-discussed case of the late Emperor of Germany.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

Meeting of November 28, 1890.

Dr. R. A. Murray in the Chair.

Exploratory Puncture of the Female Pelvic Organs.—Dr. G. M. Edebohls read a brief summary of his points for the benefit of those who were not present at the reading of the original paper at the previous meeting.

Dr. A. F. Currier said he thought with the author of the paper that the only cases in which the puncture was admissible were those in which a diagnosis could be made in no other way, and even then the question of danger would have to be taken into consideration. The danger might not exist in the hands of the experienced, but the procedure was liable to be adopted by those who were incompetent, and then disastrous results would be sure to follow. One of the first dangers was that of puncturing the intestines, an accident that could scarcely be avoided in these cases, as adhesions binding down the intestines were so often found in laparotomies. It was a grave question when one considered that, in puncturing, the needle was liable to pass through the intestines, allowing some of the contents to escape into the peritoneal cavity, and in cases of pyosalpinx for pus to find its way along the line of puncture to the same dangerous situation. The speaker thought that if this method was called for at all, it would certainly be limited to a very small number of cases. He felt that with careful antisepsis and the use of anæsthetics the pelvic cavity could be fully explored and a diagnosis made without subjecting the patients to the dangers of puncture.

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* Since this was spoken the patient has died, death occurring suddenly from laryngeal œdema, the operation not having been performed. Microscopical examinations showed the laryngeal and cervical growth to be cancerous. On dissection, there was extra-tracheal cancer, with considerable pressure on the windpipe. There was also left bronchial dilatation.

Dr. A. H. Buckmaster was not in favor of the operation. He gave the history of a case of ovarian cyst where, after puncture of the sac, suppuration had taken place, general peritonitis following, and death. The puncture had been made with the greatest care, a small-sized needle being used. The speaker was surprised at the good results reported by Dr. Edebohls in using this method. He thought that in searching for pus in the pelvic cavity he would much prefer to make an incision, as in using the puncturing needle in one case for this purpose he had opened the bladder.

Dr. Jewett's views were in accord with those of the last two speakers. He thought that if puncture could be made directly into the sac the operation might be available, but that if the needle had to pass through the intestines and twice through the peritonæum it was decidedly dangerous.

Dr. A. P. Dudley said that he rarely opened an abdomen without finding the intestines were in front or adherent in the pelvis, and in position to be punctured if that operation were performed, and he thought passing a needle through the intestines was always dangerous, let alone passing it twice through the peritonæum. It was his practice, in cases in which the operation was called for, to puncture through the vagina. The history of a case was related where an enlargement presented behind the uterus. A satisfactory history could not be obtained, but, as far as could be learned, there was nothing to indicate tumor, hæmatocele, or inflammation. He had punctured *per vaginam* and drawn off twelve ounces of blood. To-day he had made another puncture with a needle an eighth of an inch in caliber, but had been unable to discover anything. After an incision he had drawn off three ounces of pus. He concluded that the case had originally been one of hæmatosalpinx resulting in pyosalpinx, and that if he had been satisfied with an exploratory puncture the bad results would have been obvious.

Dr. H. J. Boldt said that, as a rule, he was opposed to puncture of any kind, for the reason that it was possible to tell in almost every case whether the trouble was intraperitoneal or extraperitoneal without doing this. For a positive diagnosis to be made the needle would have to be larger than would be proper to use, because the pus would not pass through the fine ones. An incision was preferable in cases where pus and cheesy masses were supposed to be present. He thought that with the patient under an anæsthetic a good diagnosis could be made, and for this purpose he did not like the puncture at all. He had been surprised to hear Dr. Edebohls say that it did no harm to puncture the intestines.

Dr. H. C. Coe thought that in puncturing through the abdominal wall there was always danger of injuring the intestines and blood-vessels, and that this could almost always be avoided by operating through the vagina; but even this was not without its drawbacks. He preferred the exploratory incision to puncture. He could not think that Dr. Edebohls's method would be generally accepted.

The Chairman said that it was always a temptation to puncture to find out what the tumor was in such a case, but in his hands the method had not been successful. Of course Dr. Edebohls had used every precaution in his cases, but the result of puncture of the intestines was well known. He thought that puncture ought never to be done by persons who were not competent to do laparotomy if it was necessary, and that under any precaution the operation was fraught with grave dangers.

Dr. Edebohls had expected objection to his method, but he thought that the points in his paper had been overlooked by most of the speakers, as his method did not refer to large tumors, but to small masses which lay deep in the abdominal cavity. He did not mind the intestines being punctured. He had, after operating, kept the patients under observation from a day to fourteen days, and had never had any bad results. He did not recommend the method to the general practitioner, but only to the expert, and it was only to be employed in those cases in which a diagnosis could be made in no other way. The method had never been used for its therapeutic value, although some patients had been cured by the removal of the contents of the sac. He only used an anæsthetic in puncturing when he could not do without it. About three quarters of his patients had been operated on without an anæsthetic. He insisted again that his method was not for the general practitioner, but for the expert, and that, if perfect asepsis was practiced, the needle introduced steadily, and the inclination to move the needle about resisted, the results could not fail to be good.

Dr. Dudley asked whether an operation had ever been done on one of the patients that had been previously punctured, and if so, whether any adhesions or thickening had been found along the line of puncture?

Dr. Edebohls said that he had had no opportunity to make such an examination, but that it was well known that, even in gunshot wounds of the intestines, them ucosa filled up the gap very rapidly, and that he did not think that the small needle which he used would allow any fæcal matter to flow out and cause general peritonitis.

The Manikin in the Teaching of Practical Obstetrics.—Dr. J. C. Edgar read a paper with this title. (To be published.)

Dr. Jewett said that this subject was one of great interest and one that had not received the attention which it ought. It was almost impossible to get sufficient material for students, and the well-made manikins and appliances that could now be procured were of great value in teaching obstetrics. It was his opinion that this was the only way in which the student could be trained in this branch.

Dr. H. T. Collyer related the history of a case of forceps delivery which he had been called to see, after it had been worked at by several other physicians, in which the mutilation of the patient was simply fearful. It was the opinion of the speaker that if his colleagues had had manikin training such things could not have happened.

The Chairman had had twelve years' experience in the use of the manikin as a means of teaching practical obstetrics and he was convinced that it was the only means by which it could be properly impressed. In the first place, even if one had a patient for the purpose, it was impossible to let a whole class examine her, and if they did they could not see into the uterus and appreciate what was going on. It was the same thing in the application of the forceps on the human subject. The student had to take the word of the instructor as to what position it was in in the uterus, and it was a pretty hard thing to understand without seeing. In the use of the manikin a fœtal cadaver could be used, and the forceps be applied and the student see what he was doing. In this same way all the capital procedures might be performed. He strongly advised this method of teaching obstetrics, as only one out of every twelve physicians could get the opportunity of having maternity training. He thought that the gynæcologists' material was supplied by the obstetricians, and that this was due to a lack of knowledge of even the first principles of midwifery. One of the most important things that a student should know was pelvimetry. With this fact in mind, an examination should always be made before labor came on. In spite of the large number of obstetrical operations done, the mortality was kept down pretty low; but in all teaching of obstetrics the student must be told to use the forceps only when it was necessary.

Dr. Coe had had considerable experience in the use of the manikin and cadaver in teaching operative gynæcology, but thought that the well-appointed manikins were to be preferred. for the reason that work on the cadaver was not compatible with that of the practitioner, obstetrician, or gynæcologist.

Transperitoneal Hysterorrhaphy; a New Method of Ventro-fixation of the Uterus without opening the Abdominal Cavity.—This was the title of a paper by Dr. Florian Krug. (To be published.)

Dr. H. J. Boldt thought that one of the disadvantages of the operation was the introduction of a sound into the uterus, and the force necessary to hold the uterus against the abdominal wall, which was, the speaker thought, in some cases a dangerous proceeding, as some uteri were so soft that the sound would penetrate them. Taken altogether, he could not see the advantage of the operation; for his part, he should prefer to make the regular incision. As for ventral fixation, no matter what operation was done, he was not prepared to comment on its merits, as the permanent results were not known, and certainly, from theory alone, he could not say he thought it successful.

Dr. Dudley thought that Dr. Krug's operation was ingenious; that if the uterus would remain adherent, and if the results were good, he should be glad to indorse it. But he thought adhesion of the uterus to the abdominal wall quite as much of a pathological condition as the retro-displacement, and that, with the uterus firmly fixed in this position, it would be subjected to a great deal of pressure, both from above and from below. There was no doubt that if an operation could be performed years after such fixation, the adhesions would be found stretched and dragged. He thought any operation which would straighten up the uterus without fastening it to the abdominal wall would be preferable; still, if he had a case of movable uterus that had resisted other means of treatment, he should be inclined to try this method.

Dr. Currier thought that the objections to the operation were very considerable. In the first place, he saw no need of exposing the woman to dangers the result of which one could not be sure of. Then, again, he thought that puncturing the uterus was not without danger, and that scraping or denuding it, when it could not be observed to what extent this was done, was also unsafe. He should be glad to know of something that would cure those cases of retro-displaced uteri of non-inflammatory origin. For his part, he did not feel like doing an abdominal section in such cases. About the merits of the new operation he was not prepared to speak, but Dr. Polk had said that in uteri which had been previously so attached he had found the adhesions loosened after a time.

Dr. Edebohls said that the success of such operations depended upon the firmness of the peritoneal adhesions, but if this could be avoided, so much the better. In his own practice he did a modification of Alexander's operation. Twenty-one patients in all had been operated upon, and the results had been very satisfactory.

Dr. Jewett's experience in this operation had been limited to one case only, but, from what he had seen and heard, he did not think the operation devoid of danger.

Dr. Dudley would like to know how it could be told whether the uterus was adherent or not. He had performed laparotomy in three cases after operation for the purpose of fastening the uterus to the abdominal wall, and had never been able to find any adhesions.

The Chairman thought that considerable good might be done to the uterus by having it held in position for a while, even if the adhesions did loosen after a time; at any rate, he thought it a good thing to try.

Book Notices.

A Manual of Modern Surgery: an Exposition of the Accepted Doctrines and Approved Operative Procedures of the Present Time. For the Use of Students and Practitioners. By John B. Roberts, A. M., M. D., Professor of Surgery in the Woman's Medical College of Pennsylvania, etc. With Five Hundred and One Illustrations. Philadelphia: Lea Brothers & Co., 1890. Pp. xvi–33 to 800. [Price, $4.50.]

This book is a most excellent one for speedy and satisfactory reference. It is essentially a work expressive of its genial and learned author's well-digested thought and experience, and may therefore be received as a guide in practice fully up to the period, and philosophically conservative. For medical students, especially the overworked American, and those who have neither the inclination nor the leisure to prune and plod for themselves, the book is invaluable. The initial chapter, on inflammation and kindred subjects, is a clear and concise *résumé* of modern views, and could not well be more happily worded or adapted to easy understanding. The chapters on injuries of the brain and spinal cord and their treatment are particularly worthy of commendation and evince the nicest discretion in their preparation and much original labor. The book abounds in useful, well-selected, and well-drawn illustrations. It is not only worth its selling price, it is worth owning and reading.

BOOKS AND PAMPHLETS RECEIVED.

Lehrbuch der Auscultation und Percussion mit besonderer Berücksichtigung der Besichtigung, Betastung und Messung der Brust und des Unterleibes zu diagnostischen Zwecken. Von Dr. C. Gerhardt, Professor der Medicin und Geh. Med.-Rath in Berlin. Fünfte, vermehrte und verbesserte Auflage. Mit 49 in den Texte gedruckten Holzschnitten. Tübingen: H. Laupp. Pp. viii–363.

The Physician's All-requisite Time- and Labor-saving Account Book. Designed by William A. Seibert, M. D., of Easton, Pa. Philadelphia F. A. Davis.

The Medical Bulletin Visiting List, or Physician's Call Record. Arranged upon an Original and Convenient Monthly and Weekly Plan for the Daily Recording of Professional Visits. New Edition. Philadelphia: F. A. Davis.

Treatment of Uterine Fibro-myomata by Abdominal Hysterectomy By J. C. Irish, M. D., Lowell, Mass. [Reprinted from the *Boston Medical and Surgical Journal.*]

The Regimental Red Cross Corps. A Manual for Medical Officers of the U. S. Militia. By W. Thornton Parker, M. D., etc.

How the Physicians of Johnstown were relieved after the Flood. A Paper read at the Annual Meeting of the Pennsylvania State Medical Society, Pittsburgh, Pa., June 10, 1890. By George W. Wagoner, M. D., of Johnstown. [Reprinted from the *Transactions of the Medical Society of Pennsylvania.*]

Report of Fifteen Cases of Puerperal Eclampsia. By John G. Meachem, M. D., of Racine, Wis. [Reprinted from the *Journal of the American Medical Association.*]

Cocaine Analgesia; its Extended Application in General Surgery, when hypodermically employed. By Thomas H. Manley, M. D., New York. [Reprinted from the *Boston Medical and Surgical Journal.*]

Flat-foot. I. Clinical Lecture: Post-graduate Course, Edinburgh, October, 1889. II. Paper read before Edinburgh Medico-chirurgical Society, May, 1890. By A. G. Miller, F. R. C. S. Ed., etc. [Reprinted from the *Edinburgh Medical Journal.*]

Exploratory Puncture of the Female Pelvic Organs. A Diagnostic Study. By George M. Edebohls, A. M., M. D. [Reprinted from the *Medical Record.*]

Neurasthenia and Neuralgia from Traumatism of the Nasal Passages. By W. F. Chappell, M. D., M. R. C. S. Eng. [Reprinted from the *Medical Record.*]

Contributo alla chirurgia cerebrale. 1. Leptomeningite circoscritta, trapanazione, guarigione. 2. Tumore del cervelletto con idrocefalia, trapanazione esplorativa, morte. Pel Dott. I. Lampiasi. (Comunicazione fatta alla VI adunanza della Società italiana di chirurgia in Bologna il 16 Aprile, 1889.)

Contributo alla chirurgia della colonna vertebrale. 1. Lussazione e frattura delle vertebre dorsali, operazione, morte. 2. Frattura della 10a vertebra dorsale, operazione, guarigione. Pel Dott. I. Lampiasi. (Comunicazione fatta alla VI adunanza della Società italiana di chirurgia in Bologna il 16 Aprile, 1889.)

Les microbes, les ferments et les moisissures. Par le Dr. E. L. Trouessart. Deuxième édition, revue, corrigée et considérablement augmentée. Avec 132 figures dans le texte. Paris: Felix Alcan, 1891. Pp. xi–282.

Contributo alla chirurgia cerebrale. 1. Epilessia jacksoniana da pachimeningite, operazione, guarigione. 2. Epilessia jacksoniana da prodotti tardivi di sifilide, operazione, guarigione. Pel Dott. I. Lampiasi, etc. [Estratto dalla *Riforma medica.*]

Miscellany.

Mortality in Cities in the United States.—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the Abstract of Sanitary Reports for December 12th:

CITIES.	Week ending—	Estimated population.	Total deaths from all causes.	DEATHS FROM—										
				Cholera.	Yellow fever.	Small-pox.	Varioloid.	Varicella.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping-cough.
New York, N. Y.	Dec. 6.	1,652,748	672	..	..	..	..	..	..	8	5	31	12	5
Chicago, Ill..........	Dec. 6.	1,100,000	258	..	..	..	..	.	..	5	1	15	5	1
Philadelphia, Pa.....	Nov. 29.	1,064,277	385	..	..	..	..	..	..	15	5	11	..	1
St. Louis, Mo........	Dec. 6.	460,000	141	..	..	..	..	..	..	1	1	6	..	....
Baltimore, Md.......	Dec. 6.	455,427	159	..	..	..	..	.	..	1	1	4	..	1
Boston, Mass........	Dec. 6.	446,507	186	..	..	..	..	..	..	4	3	7	1	....
Cincinnati, Ohio.....	Dec. 5.	325,000	106	..	..	..	..	..	..	2	..	7	..	....
New Orleans, La.....	Nov. 22.	254,000	131	..	..	..	..	..	..	1	..	1	..	1
New Orleans, La.....	Nov. 29.	254,000	155	..	..	..	..	.	..	..	..	1	..	1
Detroit, Mich........	Nov. 30.	250,000	76	..	..	..	..	..	..	..	..	10	..	....
Washington, D. C....	Nov. 29.	250,000	68	..	..	..	..	..	..	3	1	3	1	....
Washington, D. C....	Dec. 6.	250,000	78	..	..	..	..	..	..	4	..	2	..	..
Pittsburgh, Pa.......	Nov. 29.	240,000	83	..	..	..	..	..	..	6	..	12		1
Milwaukee, Wis......	Dec. 6.	220,000	69	..	..	..	..	..	..	1	..	9	2	....
Newark, N. J........	Dec. 6.	184,880	54	..	..	..	..	..	..	4	..	1	..	....
Minneapolis, Minn...	Dec. 6.	164,738	41	..	..	..	..	..	..	2	.	5	..	....
Rochester, N. Y......	Dec. 6.	138,327	31	..	..	..	..	..	..	1	2	4	..	..
Providence, R. I.....	Dec. 6.	132,043	39	..	..	..	..	..	..	1	..	..	..	1
Richmond, Va........	Nov. 29.	100,000	43	..	..	..	..	..	..	1	..	4	..	....
Toledo, Ohio.........	Dec. 5.	82,652	23	..	..	..	..	..	..	..	..	2	..	....
Nashville, Tenn	Dec. 6.	76,309	26	..	..	..	..	..	..	..	..	1	..	....
Fall River, Mass.....	Dec. 6.	75,000	26	..	..	..	..	..	..	1	..	2	..	....
Portland, Me.........	Dec. 6.	42,000	13	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas....	Nov. 14.	40,000	13	..	..	..	..	..	..	..	..	1	..	....
Galveston, Texas....	Nov. 21.	40,000	11	..	..	..	..	..	..	..	..	..	..	....
Galveston, Texas....	Nov. 28.	40,000	17	..	..	..	..	..	..	..	..	1	..	....
Binghamton, N. Y...	Dec. 6.	35,000	10	..	..	..	..	..	..	1	..	..	..	....
Auburn, N. Y........	Nov. 29.	25,887	9	..	..	..	..	..	..	..	..	..	..	....
Auburn, N. Y	Dec. 6.	25,887	9	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass..	Nov. 22.	24,375	2	..	..	..	..	..	..	..	..	..	..	....
Newton, Mass.......	Nov. 29.	24,375	7	..	..	..	..	..	..	..	..	..	..	....
Newport, R. I........	Dec. 4.	20,000	4	..	..	..	..	..	..	..	..	..	..	....
Rock Island, Ill......	Nov. 30.	17,000	4	..	..	..	..	..	..	..	..	..	..	....
San Diego, Cal.......	Nov. 29.	16,000	3	..	..	..	..	..	..	..	..	..	..	....
Pensacola, Fla.......	Nov. 29.	15,000	6	..	..	..	..	..	..	..	..	..	..	....

The New York Academy of Medicine.—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 23d inst., Dr. J. W. Gleitsmann will read a paper entitled Experience with Trichloracetic Acid in Two Hundred Cases of Affections of the Throat and Nose, with Demonstrations of Instruments.

At the next meeting of the Section in Obstetrics and Gynæcology, on Friday evening, the 26th inst., Dr. Malcolm McLean will read a paper on The Placenta, Funis, and Membranes—some Remarks on their Influence in Gestation and Parturition, and Dr. R. A. Murray will open a discussion on The Diagnosis and Management of Concealed Hæmorrhage during Labor.

Tomato Poisoning.—"Under this title Dr. Mills (*International Dental Journal*) describes a form of recession of the gums of the superior molars, which he believes to be due to the use of tomatoes as food. The affection is most marked on the palatine surfaces. Great sensitiveness is manifested along the line of recession, similar to that of an exposed nerve. The only remedy was found to be abstinence from tomatoes. If the disease continues, the teeth fall out, not usually more than one being lost in a season."—*Druggist's Circular and Chemical Gazette.*

ANSWERS TO CORRESPONDENTS.

No. 338.—Half an hour.

No. 339.—There is no essential difference.

No. 340.—It is not known. The active constituent is conjectured to be a ptomaine.

To Contributors and Correspondents.—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.

All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.

Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.

Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.

All communications intended for the editor should be addressed to him in care of the publishers.

All communications relating to the business of the journal should be addressed to the publishers.

Original Communications.

THE MANIKIN IN THE TEACHING OF PRACTICAL OBSTETRICS.[*]

By J. CLIFTON EDGAR, A. M., M. D.,
ADJUNCT PROFESSOR OF OBSTETRICS IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK;
ATTENDING PHYSICIAN TO THE OUTDOOR POOR DEPARTMENT OF BELLEVUE HOSPITAL, DISEASES OF WOMEN;
ATTENDING PHYSICIAN TO THE MIDWIFERY DISPENSARY.

This subject will be discussed under three headings:

I. The necessity for practice upon the manikin or cadaver before actual attendance upon labor cases.

II. A description of the various manikins and their accessories now in use.

III. What may be accomplished with the improved obstetric manikins.

I. *The Necessity for Practice upon the Manikin or Cadaver before Actual Attendance upon Labor Cases.*—What relation do demonstration, practice, and operation upon the manikin bear to clinical instruction in midwifery?

It is the belief of the writer that practice upon suitable manikins should precede actual attendance upon labor cases and the performance of obstetric operations. We are told [†] that in a collection of 100,000 labors occurring in the maternity hospitals of St. Petersburg, Berlin, Dresden, Leipsic, Marburg, Munich, Würzburg, Prague, Vienna, Graz, and Laibach, 6,555 operations were demanded—in other words, one operation in every 15·2 labors. The relative frequency of these operations is variously distributed over the performance of such operations as the application of the forceps, internal version, detachment of the placenta, extraction in breech cases, reposition of the prolapsed funis, induction of premature labor, perforation, cephalotripsy, Cæsarean section, reposition of prolapsed extremities, etc. The operations just cited are named in the order of the frequency in which they were demanded.

In 606 cases of labor occurring in the Nursery and Child's Hospital during the time my friend, Dr. Irwin H. Hance, was house physician in that institution, operative interference was demanded in 59 cases, or 1 operation in every 10·2 labors. These figures take no account of 17 cases of pelvic presentations, where undoubtedly some interference was resorted to for the extraction of the after-coming head or arms. These operations included—

Forceps (low operation)	42
" (high operation)	7
Correction of face presentations	3
Version	3
Craniotomy	1
Induction of premature labor	3
Total	59

Dr. Hance further informs me that in a recent twelve weeks' service at the Maternity Hospital on Blackwell's Island the total number of deliveries was 106. In this number operative interference was resorted to 25 times, or 1 operation in every 4·2 cases. These operations included—

Forceps (low operation)	19
" (high operation)	2
Version	4
Total	25

In the service of the Midwifery Dispensary of this city—a lying-in service carried on in the tenement-house districts of the east side for purposes of clinical instruction, in which the patients are delivered at their own homes, and in which the practice of the attending physicians has been a conservative one—during the first ten months of its existence, recently completed, there were 160 cases of confinement attended, or 131 cases at full term, if all cases of premature labor, abortion, and those seen during the puerperium are omitted. In the 131 cases of labor where delivery occurred at full term, operative interference was demanded in 8 instances, or 1 operation in every 16·3 cases of labor. These operations included—

Forceps (high operation)	1
" (low operation)	1
Podalic version	2
Manual extraction in pelvic presentations	4
Total	8

Since, in estimating the frequency of operative interference in the 606 cases of labor occurring at the Nursery and Child's Hospital, in the 106 at the Maternity upon Blackwell's Island, and in the 131 in the service of the Midwifery Dispensary, no account is taken of the operation for the manual extraction of the placenta from the uterine cavity, it is quite evident that, should this operation be added to the above named, the frequency of operation would consequently be somewhat greater than the foregoing figures—1 in 10·2 cases, 1 in 4·2 cases, and 1 in 16·2 cases, respectively—would indicate.

"In private practice Ploss found that in almost every country the frequency of operation gradually increases.[*] He ascribed this increase to the greater number of male obstetricians, and stated further that 'more operations were performed in cities than in the country, and that the frequency of operation bore a direct relation to the relative number of obstetricians.'"

If the foregoing statement—namely, that operative interference is demanded in maternity hospitals once in every 15·2 labors—is true (and this, from the figures quoted, is not by any means a high estimate), the question naturally comes home to each one of us: How may the student, how may the practitioner who has had no maternity service, obtain the requisite amount of practice and skill for the performance of obstetric operations in private practice? Is one justified in simply waiting for such cases to arise in his practice that may demand operative interference in order to obtain the necessary dexterity?

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[*] Read before the Section in Obstetrics and Gynæcology of the New York Academy of Medicine, November 28, 1890.

[†] Ploss, quoted by Winckel, *Text-book of Midwifery*, Philadelphia, 1889, p. 602.

[*] Winckel's *Text-book of Midwifery*, Philadelphia, 1889.

It goes without saying that the student, for instance, is scarcely liable to obtain an insight into operative obstetrics by attending the two, four, six, or eight cases of midwifery that are prescribed by his college course. The surgeon who has a certain operation before him has already made himself familiar with the *technique* of the same by reason of his labors in the dissecting-room and repeated practice upon the cadaver. Instruction in operative surgery upon the cadaver is common enough. It is the exception for a medical college to be without it.

Has every medical college its course in operative obstetrics?

In Germany the performance of obstetric operations upon the manikin goes hand in hand with the student's observation and practice in the delivery and puerperal wards. The surgeon, and to a certain extent the gynæcologist, obtain their preliminary training by operating upon the cadaver. Can not the obstetrician do the same? Most assuredly he can. Practically, however, this is only possible in large maternity hospitals, where the service is enormous and where deaths are constantly occurring among the recently confined, a state of affairs not often met with in the present state of obstetric medicine and surgery.

Because so difficult to obtain in a proper state and because repeated operation soon renders the resistance offered by the soft parts practically useless for demonstration, and since the supply of subjects is so exceedingly small, we find the cadaver of the puerperal woman but seldom resorted to for purposes of obstetric demonstration and operation.

Upon some other means, therefore, are we forced to fall back, and necessity, the mother of invention, has called into existence the obstetric manikin. Brought first into prominence, in all probability, some time in the latter part of the seventeenth century, the obstetric manikin has passed through many changes, and numerous improvements have been made in its construction, until to-day we have at our command manikins which, according to many of the best German, French, English, and American authorities upon the subject, are in no way inferior, for purposes of diagnosis, demonstration, and operation, to the cadaver of a puerperal woman, in the recent state, whose pelvis is still covered by the soft parts.

Indeed, some go further and maintain that the later improved obstetric manikins that permit of the production of normal and deformed pelves at will, together with a number of still-born, full-termed children, are even more desirable than the cadaver and answer every requirement.

II. *A Description of the Various Manikins and their Accessories now in Use.*—Two obstetric manikins are to-day well known and in general use.

These are the French manikin, known as the Budin-Pinard,* and the German one, known as the manikin of B. S. Schultze,† of Jena.

Fig. 1 shows the Budin-Pinard manikin closed, and in Fig. 2 a longitudinal mesial section of the same is shown, bringing into view the internal arrangement.

The Budin-Pinard manikin is carved from one solid piece of wood, and represents that portion of the female body extending from a point just above the mammary glands to within a few inches of the knee joints. The thighs are widely separated for convenience in operating, and the anterior abdominal wall is made of rubber capable of being distended with air, and so arranged upon a frame hinged to the upper part of the body (Fig. 2) that the whole may be thrown back, thus bringing the abdominal cavity and pelvic inlet into view. The pelvic excavation is so carved as to roughly represent the normal bony pelvis, and one piece of India rubber lines the abdominal and pelvic cavities, and at the pelvic outlet is so molded and secured to the margin of the inferior strait as to form the vulva, ostium vaginæ, and perinæum.

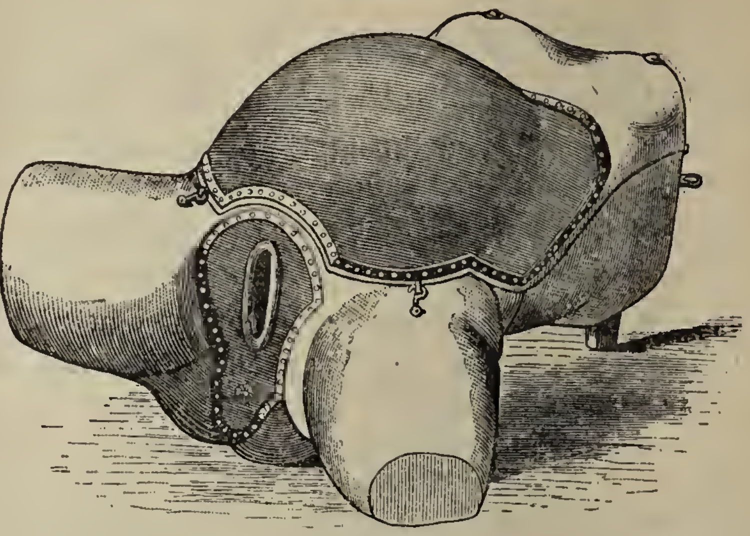

Fig. 1.—The Budin-Pinard manikin. External surface, presenting rubber vulva, anus, and inflated anterior abdominal wall.

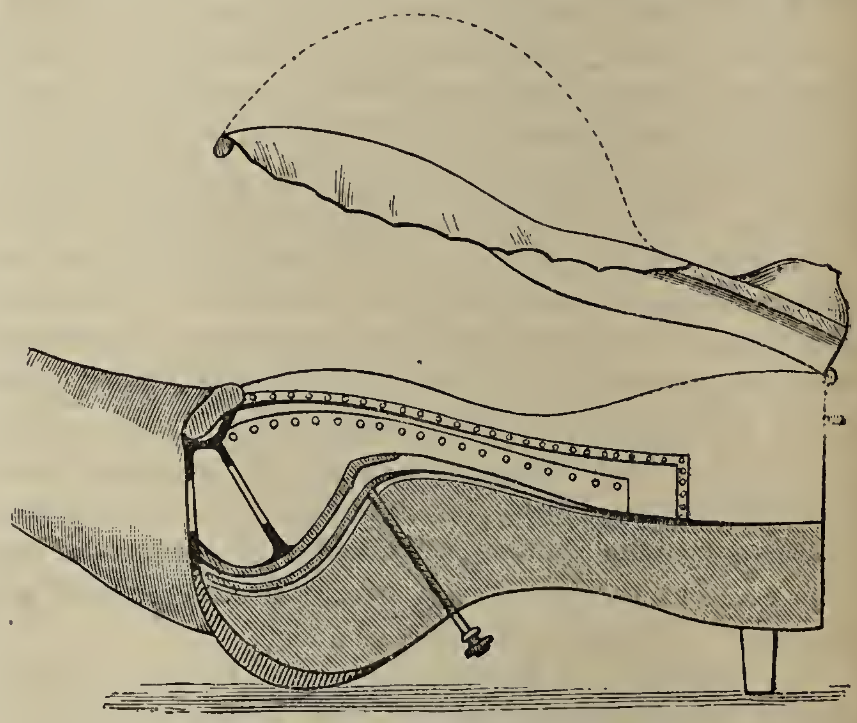

Fig. 2.—Budin-Pinard manikin seen in section.

The rubber soft parts are replaceable by means of metal plates and screws when worn out, and this must be attended to not infrequently if the manikin is in constant use. A false sacrum is so arranged, by means of a rod running in a groove at the posterior part of the abdominal cavity, together with a thumb-screw at its extremity, that any required diminution of the antero-posterior diameter at the inlet may be produced.

A recent improvement has been added to this manikin in the shape of a rubber rectum, by means of which recto-vaginal and recto-abdominal palpation may be practiced, as well as various obstetric operations that require rectal manipulation, for example, Ritgen's method of manual extraction of the head, when lying low in the pelvic cavity (Fig. 3). Various methods of perineal protection may likewise be practiced by means of this improvement. Another improvement, not so recent in character, is that of a rubber uterus shown in Fig. 4.

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* Manufactured by Raoul Mathieu, Paris. Price, 500 francs.

† Manufactured by Ed. Schilling, Jena, Germany. Price, 120 Marks.

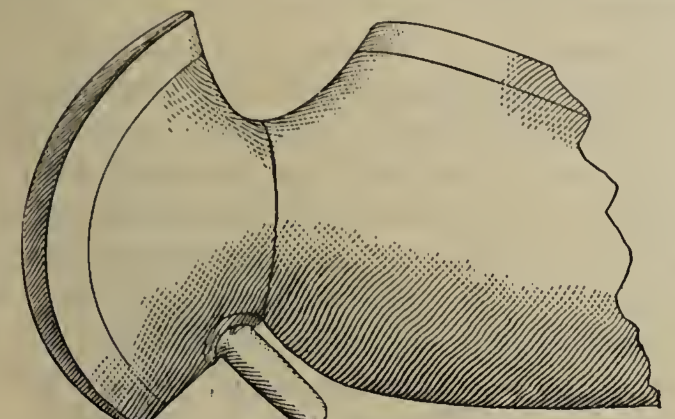

Fig. 3.—The rubber vulva, vagina, and rectum, and part of the uterus used in the Budin-Pinard Manikin.

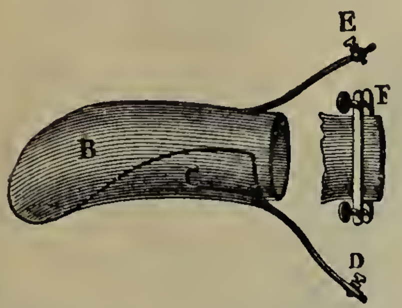

Fig. 4.—The rubber uterus (French model). B, cavity to contain fœtus and water; C, cavity distended with air; D, tube opening into C; E, tube opening into B; F, metal clamp to close B.

It consists of an India-rubber pocket containing two compartments, one of which is closed by a metal clamp at F, and is intended to contain a fœtal cadaver together with a quantity of water, which latter is to represent the liquor amnii. The other compartment, which partially surrounds the first, is to be distended with air by means of a Davidson syringe, in order to imitate the resistance of the intestines partially distended with gas.

The above-mentioned rubber uterus with its inclosed fœtus and fluid, and partially surrounded by air, is valuable for abdominal, vaginal, and combined palpation, for diagnosticating the presentation, position, and attitude of the fœtus by these means, and for practicing and appreciating that sign of pregnancy known as ballottement.

The objections made against the Budin-Pinard manikin are numerous. So much rubber enters into its construction, both in the anterior abdominal walls and the lining to the abdominal and pelvic cavities, and in the formation of the vulva, and the material is of such light quality, that repairs are constantly demanded if the manikin is used at all continuously.

The writer's experience at the University Medical College, where two of these French manikins are in constant use, has been that one college session is quite sufficient to pretty thoroughly use up the rubber representing the soft parts, and to necessitate its entire renewal. These parts are as yet not to be obtained in this country, and considerable delay and inconvenience at times attend the importing of them. Moreover, the manikin can be used in but one position—the dorsal one. Because there is no motion at the hip joints, nor attempt to imitate nature in the construction of the back of the figure, neither abdominal nor thoracic bandages can be properly applied. The pelvis itself is so roughly constructed that only an approach to the normal condition is obtained.

This manikin, however, has many advantages. It is comparatively light and readily moved from one table to another. It is compact, and, when kept in constant repair, one of the best manikins we have at our disposal. It is alleged for it that it is the best manikin known to the profession for the purpose of practicing abdominal palpation. This, however, is better and more easily taught and learned upon the pregnant woman, and rarely is there any difficulty in securing suitable cases from the dispensaries for this purpose.

In Germany to-day the most popular obstetric manikin in use in the various universities is that designed by Professor B. S. Schultze, of Jena.

It is the belief of the writer that the Schultze manikin possesses more advantages and fewer disadvantages than the Budin-Pinard figure.

As may be seen from the cuts, the figure consists practically of a square box so arranged upon segments of circles as to be capable of being rotated in either lateral direction 90°. Set into this box, which is made of hard wood, is a true bony pelvis, covered throughout its whole extent with strong, heavy leather. The angle which the plane of the pelvic inlet makes with the horizon is the same as that made when the woman reclines in the ordinary dorsal posture. An apron of chamois skin represents the anterior abdominal wall, and is so adjusted as to inclose the pelvic cavity and enough additional room to give space for two fœtuses if need be.

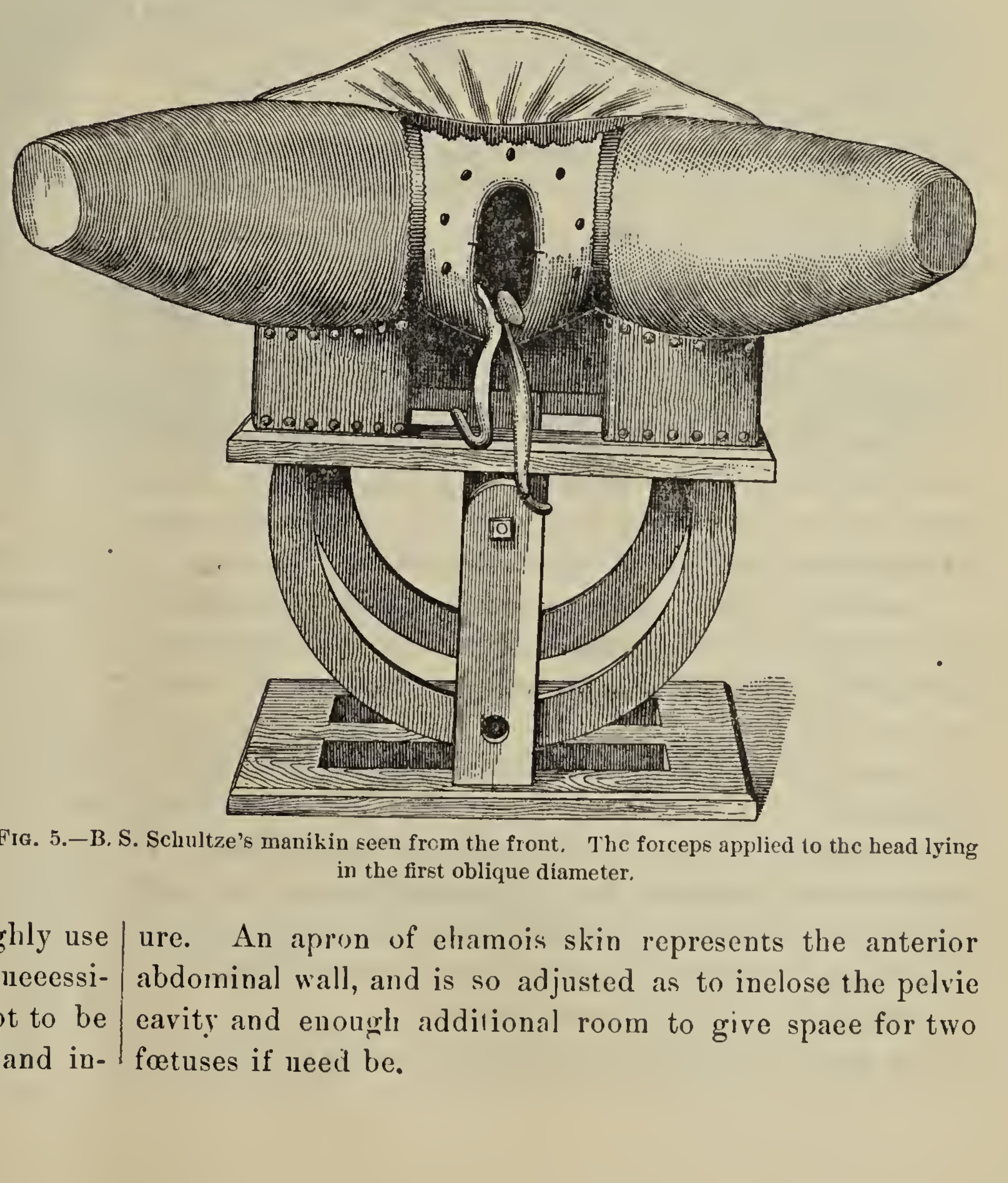

Fig. 5.—B. S. Schultze's manikin seen from the front. The forceps applied to the head lying in the first oblique diameter.

The pelvic outlet is partially closed by one solid piece of India rubber, which represents the vulva and pelvic floor. In order to imitate pelvic deformity, zinc castings of various shapes and sizes are brought into use, which by a simple contrivance may be fastened to the sacral promontory, or removed from the same in a very short space of time. The thighs, widely separated, are covered with thick, smooth leather, and the whole figure may be securely fastened to a table or a pair of chairs by means of strong clamps.

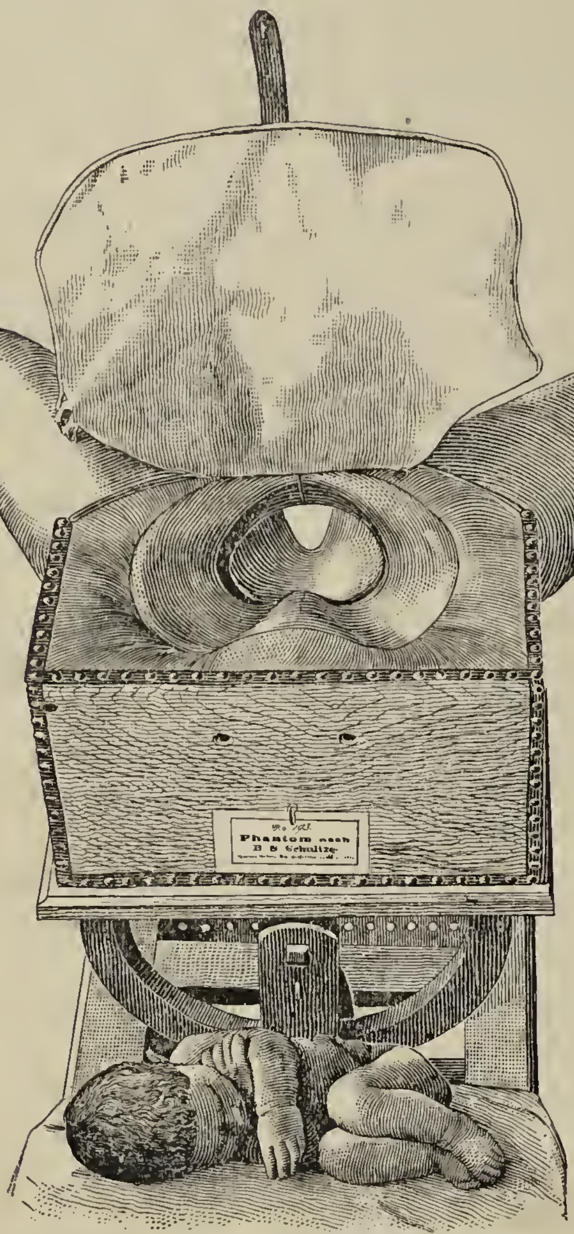
Phantom nach B. S. Schultze

FIG. 6.—B. S. Schultze's manikin, as seen from above, looking down into the pelvic inlet.

Such an obstetric manikin as this possesses many advantages and very few disadvantages. It contains a true bony pelvis in its construction, which gives us much greater accuracy than in the case of the Budin-Pinard figure. It is durable. It rarely requires repair. With the exception of the pelvic floor, no rubber enters into its construction, all the remaining parts being made of hard wood, leather, or bone.

One of these Schultze manikins, of the later improved pattern, the writer has had in almost daily use in various classes at the University Medical College for over two years, and it still shows no bad results of the severe usage to which it has been subjected; while, in the case of two Budin-Pinard manikins, used for the same length of time, repeated repairs have been called for.

A useful accessory, which may be used with either the Schultze manikin or that of the writer, is a rubber uterus,* invented and first used by Professor F. Winckel, of Munich (Fig. 7).

Fig. 8 represents an outline cut of the same.

It makes with either manikin an exceedingly useful combination, as it possesses a dilatable cervix and vagina, and many obstetric manœuvres, not otherwise easily demonstrated, may be shown—*e. g.*, the introduction of Barnes's rubber dilators and manual dilatation of the cervix.

Another advantage of the German manikin is that the pelvis may be readily and quickly placed in the lateral posture during any step of an operation, which is practically impossible with the French figure.

Here again, however, as in the French manikin, the hip joints are fixed. The thighs must remain in the same position for each and every operation.

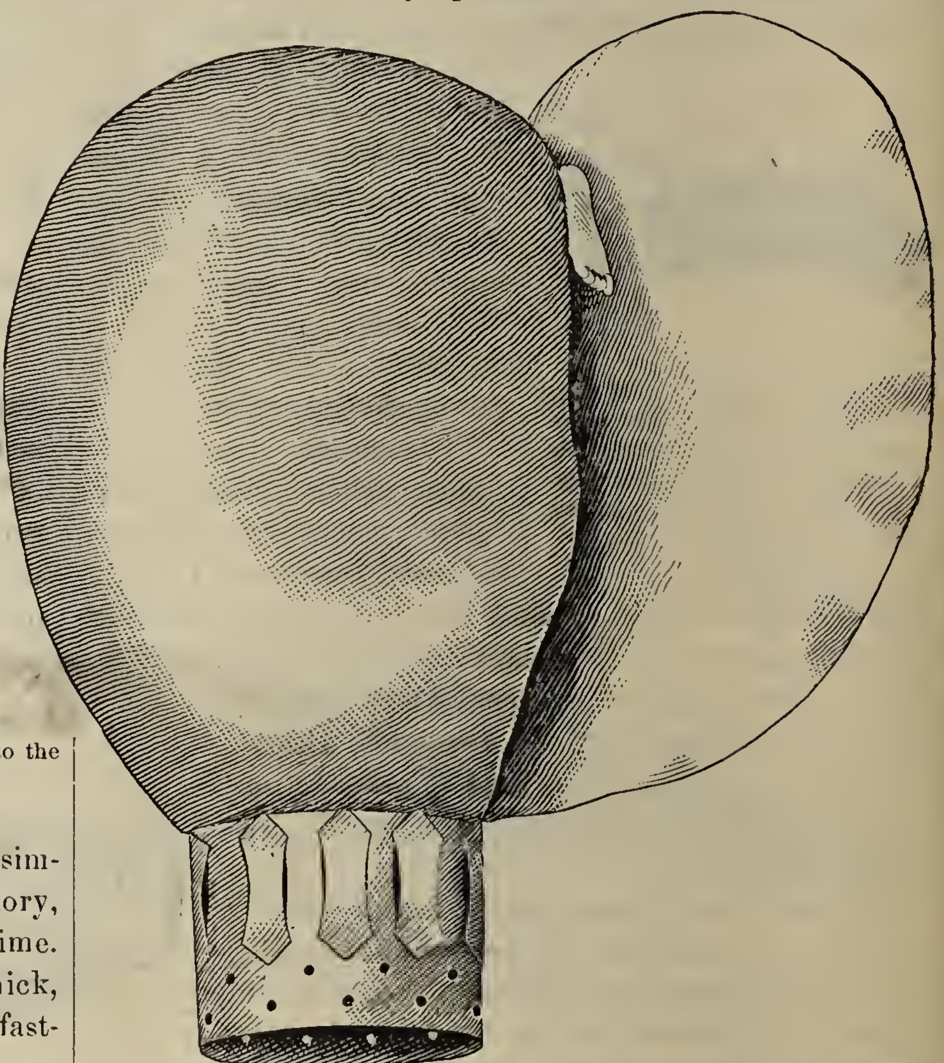

FIG. 7.—Rubber uterus, cervix, and vagina (Winckel). For use in the Schultze manikin, or that of Professor Parvin and the writer.

The pelvis being placed in a square case, no opportunity is offered for the application of bandages, either abdominal or thoracic, or for measuring the various external pelvic diameters with the pelvimeter.

Another valuable accessory to the Schultze manikin, and one which may now be obtained from the manufacturer,† consists of segments of the lower uterine segment, including the cervix. These segments come in sets of five, are made of good rubber, and are so arranged as to fit accurately into the pelvic cavity of the Schultze manikin or that of the writer. Each segment represents the os in a different stage of dilatation, so that, by simply changing them in the manikin, the entire course of the first stage of labor may be demonstrated to the person palpating, as well as the effect of such dilatation upon the presenting part of

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* Manufactured by Metzler & Co., 8 Kaufinger Strasse, Munich, Bavaria.

† Ed. Schilling, Jena, Germany.

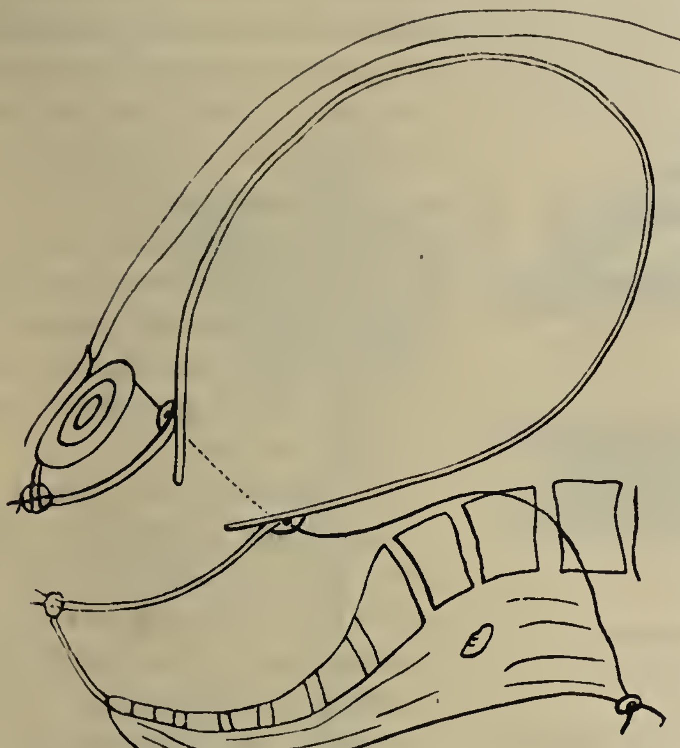

FIG. 8.—Rubber uterus, cervix, and vagina (Winckel), showing mode of attachment by means of cords to the pubes, vulva, and lumbar region of the Schultze manikin.

the fœtal cadaver, whatever that presenting part may happen to be.

With these rubber cervices many conditions heretofore difficult of demonstration may be easily and readily made plain. The protrusion of the bag of waters (using the French rubber uterus for the membranes), the characteristics of the presenting part during the several stages of dilatation, the application of cervical dilators, or the performance of obstetric operations through a partially dilated cervix, as well as many other conditions, may be fully and clearly demonstrated.

Objection has been raised against the Schultze manikin that the pelvic floor is too hard and resisting, that there is no attempt to imitate nature in the construction of the vulva, that there is no vagina within the pelvis, and that, consequently, the Budin-Pinard manikin, which has none of these so-called objections, is to be preferred of the two.

For those who desire it, a rubber vulva and vagina may now be procured * which are somewhat similar to the same parts in the French manikin, and which may be attached to or removed from the Schultze manikin at will.

The manikin that the writer desires to present to the Section this evening is one which he believes more fully fulfills the requirements for obstetric teaching and demonstration than any other now in use.

The idea of producing an obstetric manikin in the shape of a complete human form, with movable joints that would permit of the figure being placed in any desired position, originated with Professor Theophilus Parvin, of Philadelphia, and it was at Dr. Parvin's suggestion that the writer undertook the production of the present manikin.

After considerable planning, directing, and supervising, suffice it to say that we obtained from a model-maker a life-sized figure, possessing a form proportioned with the nearest approach to nature possible.

In Figs. 9, 10, and 11 the manikin is seen in different postures.

The joints are mobile, so as to permit of all the various movements and to allow of the figure being placed in any desired posture—dorsal, lateral, semi-prone, or knee-chest. The pelvis is an exact reproduction in brass of the most perfect bony pelvis obtainable, and is completely and smoothly covered with soft leather, which leaves all the elevations and depressions of the original bony pelvis unchanged. This permits of the effect of these elevations and depressions upon the mechanism of labor being demonstrated, and of the various diameters and circumferences of the pelvis, external and internal, being measured with the pelvimeter. The coccyx is so arranged by means of a hinge and spring at the rear that it is movable to the extent of allowing recession of this bone one inch. A false sacrum is provided, controlled by a rod and thumb-screw in the lower dorsal region, by means of which any desired contraction of the conjugate diameter of the brim may be produced (Fig. 10).

Further, a soft leather pelvic floor is added, which readily allows the exit of the fœtus, or the use of instruments, palpation, or manual extraction, as desired (Fig. 10).

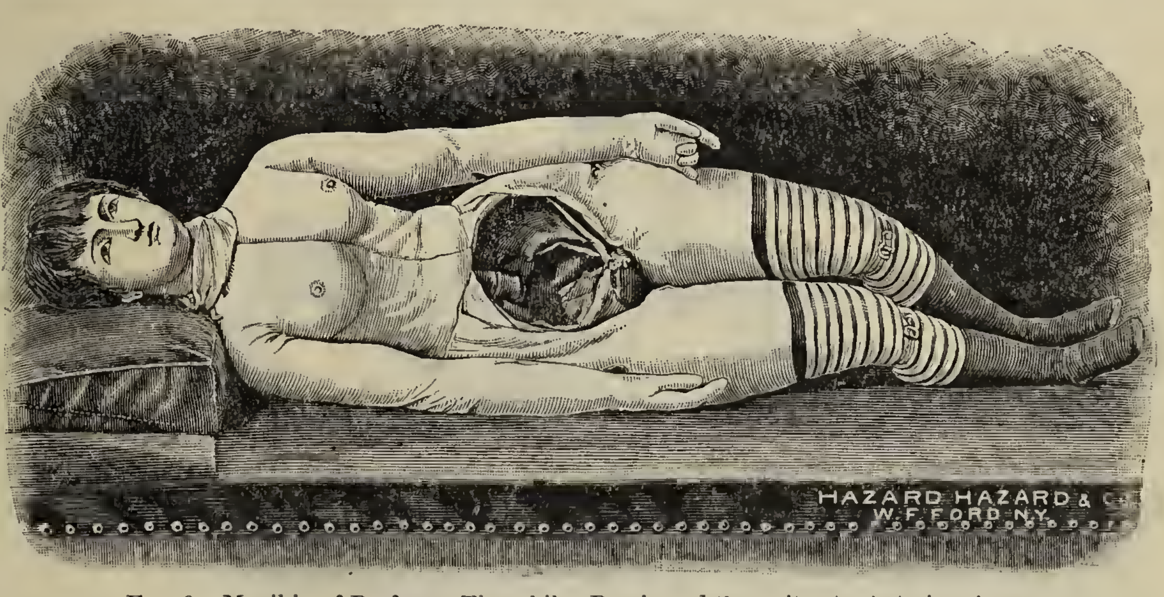
HAZARD HAZARD & Co.
W. F. FORD N.Y.

FIG. 9.—Manikin of Professor Theophilus Parvin and the writer.* Anterior view.

For the anterior abdominal wall, instead of the inflatable rubber covering of the Budin-Pinard manikin, which constantly needs replacing, a simple leather apron is provided, which experience has shown answers every purpose.

The joints are so made that a single bolt controlled by a key tightens or loosens them at pleasure. The abdominal cavity (Fig. 9) is made large enough to admit two fœtuses, if need be, or the rubber uterus of Winckel (Fig. 7) or of the French school (Fig. 4), or both may with advantage be used.

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* From Metzler & Co., 8 Kaufinger Strasse, Munich, Bavaria.

* Parvin-Edgar manikin.

The entire external surface of the manikin, with the exception of the head, is covered with soft leather; and the figure itself is light enough to be freely movable upon the operating table, or carried from place to place.

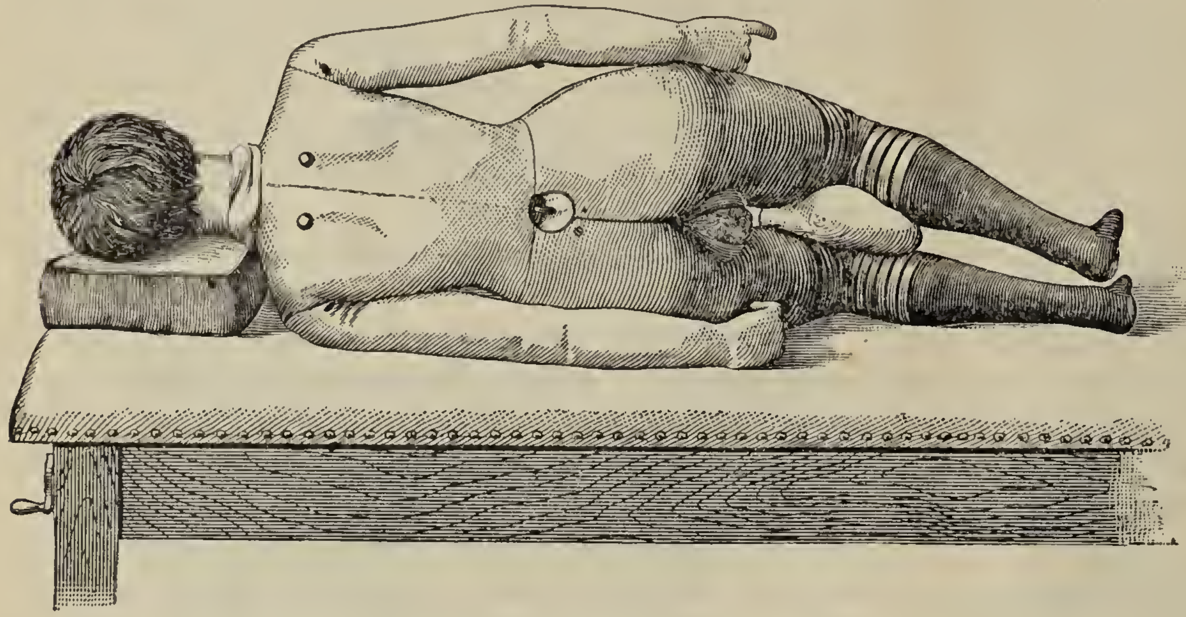

Fig. 10.—Manikin of Professor Theophilus Parvin and the writer. Left lateral posture. Head of fœtal cadaver seen distending the vulva.

Since we have in this obstetric manikin a complete human form, that may be placed in any desired posture (Figs. 9, 10, 11), that will permit of the application of any bandage, binder, or dressing, that possesses all the advantages, and few, if any, of the disadvantages, of the Budin-Pinard and Schultze manikins, it is the belief of the writer that the improved manikin contains the most desirable factors necessary for instruction and class-room demonstration.

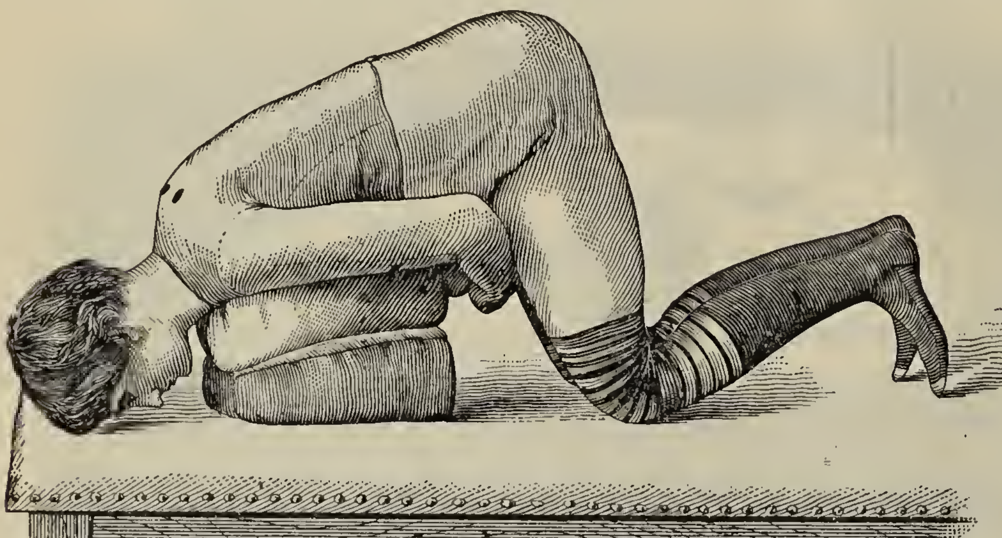

Fig. 11.—Manikin of Professor Theophilus Parvin and the writer. Knee-chest posture.

For demonstrating the mechanism of labor before a large class—the application of the forceps, cranioclast, cephalotribe, and other obstetric instruments; the various methods of performing version; the different methods of manual extraction, whether by the head, shoulders, breech, or lower extremities—the gun-metal pelvis, covered with leather and mounted upon a tripod, and devised by the writer of this paper, has proved itself exceedingly useful (Figs. 12, 13).

The pelvis is practically indestructible and is so mounted (Fig. 12) upon the upright of a tripod as to permit of rotation in an entire circle in a horizontal plane, and this permits the pelvic outlet or inlet being directed to any point desired.

Besides complete rotation in the plane of the horizon, partial rotation upon a transverse axis is also easily and quickly secured, and a simple device (Fig. 13) in the shape of a small wheel at the side enables one to fix the planes of the pelvis (represented by card-board if need be) at any desired angle with the horizon.

If desirable, for greater convenience and accuracy, a simple scale may be added at the side, which will enable one to read off at a glance the angle produced. A movable coccyx permits recession during the passage of the fœtus, and a spring throws it back again to its true position. A false sacrum, controlled by a thumb-screw passing through the true sacrum, enables one to illustrate contraction of the pelvis in its antero-posterior diameter, or to fix the presenting part of the puppe or fœtal cadaver in any desired position. With such material as the foregoing—the four manikins, with their several accessories, together with an abundant supply of fœtal cadavers of various sizes—there is scarcely an obstetric operation or procedure that may not be performed or demonstrated.

CONCLUSIONS.

1. Practice upon the obstetric manikin should supplement, not supplant, clinical instruction. The former should go hand in hand with instruction at the bedside.
2. Skill in determining the attitude, the various presentations and positions of the fœtus, by external and internal palpation, should be obtained by the student or practitioner before actually undertaking the care of a woman during confinement.
3. Familiarity with the construction and the application of the various obstetric instruments, as well as with the performance of each operation, should be acquired before subjecting the pregnant or parturient woman to these operative procedures.
4. Both of the foregoing—viz., skill in diagnosis and dexterity in operating—can undoubtedly be obtained by practice either upon the cadaver of a puerperal woman, together with the fœtal cadaver, or upon suitable manikins.
5. The recent improvements in obstetric manikins have rendered them more practical than, and quite as satisfactory as, the cadaver.
6. With the material at our command, there is scarcely

an obstetric procedure or operation that may not be demonstrated or performed.

III. *What may be accomplished with the Obstetric Manikin.*—With a view to showing those who are interested in midwifery what one is able to accomplish with the obstetric manikin in the matter of demonstration, practice, and operation, the writer of the foregoing paper has taken the liberty of appending to it his "*Scheme of Instruction*" that it has been his custom to follow for the past two years in his various sections and classes at the University Medical College of this city:

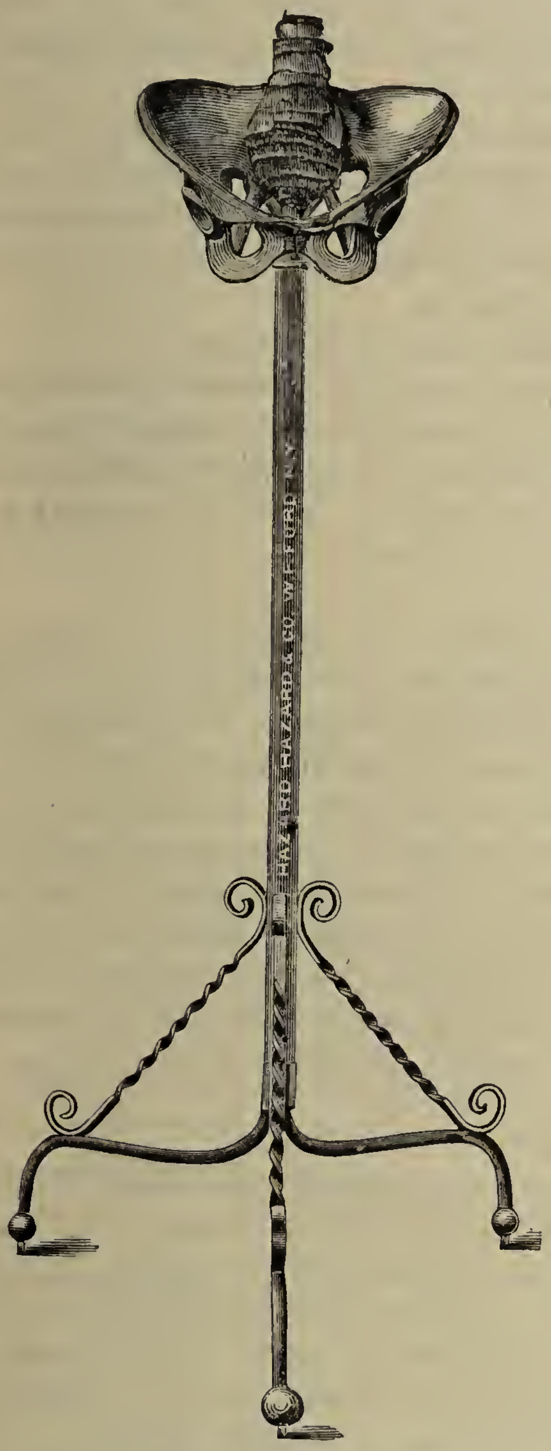

Fig. 12.—The writer's metal pelvis and tripod. Useful for demonstrating the mechanism of labor and obstetric operations.

WHAT MAY BE ACCOMPLISHED WITH THE OBSTETRIC MANIKIN.

DEMONSTRATIONS AND OPERATIONS.

A. Pregnancy.

I. *Abdominal Palpation:*

1. Location of the head, breech, shoulder, small parts, dorsal plane. 2. Attitude, presentation, and position of the fœtus (normal, abnormal). 3. Abdominal ballottement; fluctuation. 4. Diagnosis of twins, triplets. 5. Height of fundus.

II. *Vaginal Palpation; Rectal Palpation:*

1. Internal ballottement. 2. Diagnosis of vertex, breech, face, brow, and shoulder presentations. 3. Diagnosis of vertex, breech, face, brow, and shoulder positions. 4. Height of presenting part in pelvis. 5. Conjugata diagonalis; conjugata vera. 6. Antero-posterior diameter of outlet; distance between spines of ischii.

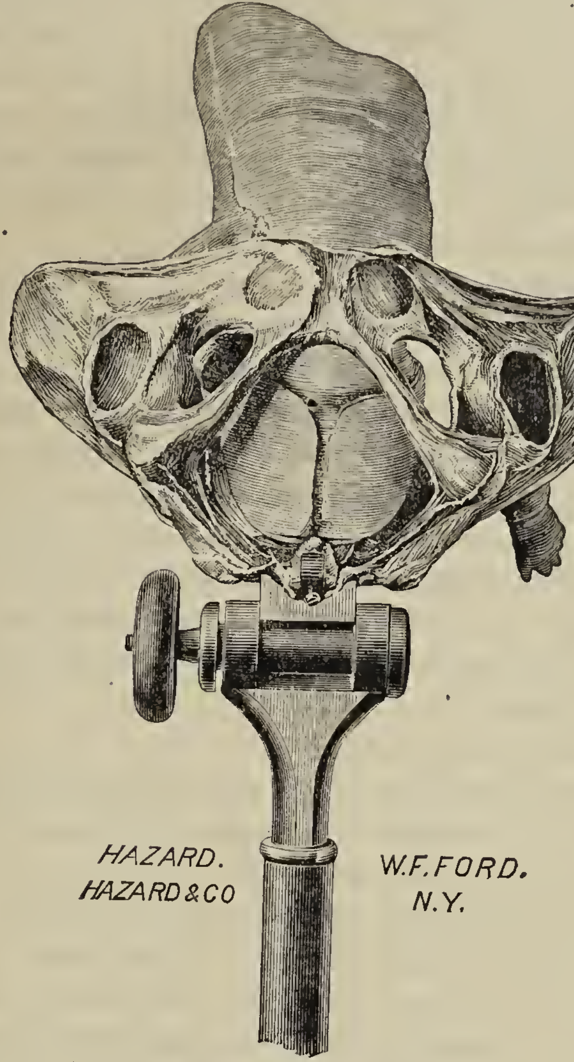

Fig. 13.—The writer's metal pelvis and tripod, showing head of puppe at pelvic outlet.

III. *Conjoined Palpation:*

1. Abdomino-vaginal. 2. Abdomino-rectal. 3. Vagino-rectal. 4. Abdomino-recto-vaginal.

B. Labor.

I. *False Pelvis; True Pelvis:*

1. Inlet. 2. Cavity. 3. Outlet. 4. Planes. 5. Axes. 6. Angles. 7. Diameters. 8. Circumferences.

II. *Characteristics of Fœtal Head and Body:*

1. Shape. 2. Movements. 3. Compressibility. 4. Diameters. 5. Circumferences. 6. Fontanelles. 7. Sutures.

III. *Attitude; Presentation; Position.*

IV. *Classification of Presentations.*

V. *Characteristics of Vertex, Breech, Face, Brow, Shoulder, Trunk, Ear, Hand, Elbow, Foot, Knee, Mouth, Anus, Genitals.*

VI. *Mechanism of Labor:*

1. Vertex. 2. Breech. 3. Face. 4. Brow. 5. Shoulder. 6. Occipito-posterior positions. 7. Mento-posterior positions. 8. After-coming head. 9. Doubled fœtus. 10. Spontaneous version. 11. Spontaneous evolution. 12. Lateral obliquity of head (Nägele). 13. Placental delivery (Schultze, Duncan).

VII. *Management of Labor:*

1. Preparation of labor-bed. 2. Posture of parturient during several stages. 3. Effect of posture of woman upon presentation. 4. Treatment of second stage. 5. Method of following down the fundus. 6. Protection of perinæum (various methods). 7. Management of the funis about the neck. 8. Delivery of shoulders and trunk. 9. Ligature of the funis; care of child; various methods for grasping and holding the child. 10. Treatment of third stage. 11. Abdominal binder. 12. Vulva pad. 13. Breast binders.

VIII. *Asphyxia Neonatorum:*

1. Rapid delivery (various methods). 2. Removal of foreign substances from air passages: *a*, inversion of child; *b*, mouth-to-mouth method; *c*, use of gauze; *d*, catheter; *e*, various aspirators. 3. Restoration of respiration: (1) Reflex stimuli (various); (2) artificial respiration: *a*, mouth to mouth; *b*, catheter; *c*, Ribemont-Dessaignes insufflator; *d*, aspirator of Jawisch; *e*, Sylvester method; *f*, Schultze method; *g*, Marshall Hall's method; *h*, Byrd's method; *i*, faradization; *j*, gavage.

IX. *Hæmorrhages:*

1. Accidental Hæmorrhage:

(1) Varieties; (2) ætiology; (3) diagnosis; (4) prognosis; (5) treatment: *a*, tampon; *b*, Barnes's bags; *c*, vaginal colpeurynter.

2. Unavoidable Hæmorrhage; Placenta Prævia:

(1) Varieties; (2) ætiology; (3) diagnosis by palpation; (4) prognosis; (5) treatment: *a*, tampon; *b*, Barnes's bags; *c*, vaginal colpeurynter; *d*, Barnes's method; *e*, Cohen-Credé method; *f*, Simpson's method; *g*, Pfeiffer's method; *h*, rapid delivery.

3. Post-partum Hæmorrhage:

(1) Varieties; (2) ætiology; (3) diagnosis by palpation; (4) prognosis; (5) treatment: *a*, simple compression; *b*, Breisky's method; *c*, Gooch's method; *d*, intra-uterine applications (heat, styptics, packing with gauze); *e*, faradization.

X. *Pelvic Deformity:*

1. Varieties. 2. Ætiology. 3. Diagnosis: *a*, Pelvimetry, external and internal; *b*, manual pelvimetry. 4. Prognosis. 5. Treatment: *a*, induction of abortion; *b*, induction of premature labor; *c*, forceps; *d*, version; *e*, advantages and disadvantages of forceps and version; *f*, choice between forceps and version; *g*, embryotomy; *h*, Cæsarean section.

XI. *Presentation and Prolapse of the Cord:*

Definitions; Frequency; Ætiology; Symptoms; Diagnosis; Prognosis.

Treatment: *a*, postural reposition; *b*, manual reposition; *c*, instrumental reposition; *d*, rapid delivery of fœtus.

XII. *Retention of the Placenta:*

Treatment: *a*, Credé's method of expression; *b*, manual extraction.

C. Obstetric Operations.

Operations performed during Pregnancy.

I. *Induction of Abortion:*

1. Bougie. 2. Cervical dilators.

II. *Induction of Premature Labor:*

1. Bougie. 2. Cervical dilators. 3. Gavage. 4. Couveuse.

Operations performed during Labor.

I. *Expression of the Fœtus—Expressio Fœtus.*

II. *Forcible Delivery—Accouchement forcé.*

III. *Manual Extraction of Head (Ritgen's Method).*

IV. *Extraction in Pelvic Presentations:*

1. Expressio fœtus. 2. Traction with finger. 3. Manual extraction: *a*, Winckel's method; *b*, A. Mar's method. 4. Blunt hook. 5. Fillet: *a*, single sling; *b*, Galabin's double sling. 6. Traction on one or both legs. 7. Forceps.

V. *Extraction of After-coming Head:*

1. Manual rotation of transversely-placed head. 2. Delivery of arms (Winckel's method, Barnes's method). 3. Methods of Smellie, Veit, Mauriceau (Veit-Smellie). 4. Wigand—A. Martin's method. 5. Prague method. 6. Forceps.

VI. *Forceps:*

1. Actions (5). 2. Indications. 3. Conditions necessary. 4. Dangers (fœtus, mother). 5. Varieties: *a*, long; *b*, short; *c*, straight; *d*, axis-traction (Tarnier, Breus, Hubert, Albert H. Smith method). 6. Operations: *a*, low; *b*, high; *c*, axis-traction; *d*, *adaptation of the forceps*; *e*, vertex presentations (anterior positions); *f*, face presentations (mento-anterior positions); *g*, pelvic presentations; *h*, occipito-posterior positions; *i*, mento-posterior positions; *j*, incomplete flexion of head; *k*, incomplete extension of head: *l*, after-coming head; *m*, use of dynamometer.

VII. *Version:*

1. Varieties: *a*, cephalic; *b*, pelvic; *c*, podalic. 2. Methods: *a*, postural; *b*, external; *c*, internal; *d*, combined. 3. Description; conditions necessary; indications; contra-indications; dangers; time for operating; preparation; position of parturient; choice of hands; choice of part to be seized; instruments. 4. Postural version. 5. External version. 6. Combined version (external and internal): *a*, Hohl's method; *b*, Braxton-Hicks's (Wright's) method. 7. Internal cephalic version: *a*, D'Outrepont's method; *b*, Busch's method; *c*, Vienna method. 8. Internal podalic version: *a*, in cephalic presentations; *b*, in shoulder presentations. 9. Internal podalic version in impacted shoulder presentations: *a*, position of parturient; *b*, choice of hand for operating; *c*, use of sling to prolapsed arm; *d*, choice of leg to be seized (upper or lower, one or both, knee or foot); *e*, blunt hook; *f*, sling to leg; *g*, Foster's method when the arm is prolapsed. 10. Combined postural (knee-chest), internal and external, cephalic or podalic version in shoulder presentations.

VIII. *Rectification of Face and Brow Presentations:*

1. Schatz's method. 2. Playfair, Humphrey-Partridge method. 3. Fillet. 4. Breus's forceps. 5. Baudelocque's method.

IX. *Treatment of Mento-posterior Positions:*

1. Extreme extension of head: *a*, position of parturient; *b*, hand; *c*, Breus's forceps. 2. Resistance supplied: *a*, hand; *b*, blade of forceps; *c*, vectis. 3. Straight forceps. 4. Ordinary forceps. 5. Version. 6. Perforation; extraction.

X. *Treatment of Occipito-posterior Positions:*

1. Extreme flexion of head: *a*, position of parturient; *b*, hand; *c*, Breus's forceps. 2. Resistance supplied: *a*, hand; *b*, blade of forceps; *c*, vectis. 3. Straight forceps. 4. Ordinary forceps. 5. Version. 6. Perforation; extraction.

XI. *Treatment of Difficult Shoulder Delivery in Head-first Cases:*

1. Expressio fœtus. 2. Traction on posterior shoulder. 3. Rotary motion with head. 4. Traction on both shoulders (Winckel's method). 5. Pushing anterior shoulder behind symphysis. 6. Use of blunt hook.

XII. *Embryotomy:*

1. *Perforation; Craniotomy.*

Definition; Object; Indications; Conditions necessary; Dangers.

(1) Advantages and disadvantages of the cranioclast. (2) Perforation accomplished by: *a*, knife; *b*, scissors; *c*, trephine. (3) Extraction or expulsion accomplished by: *a*, crotchet; *b*, hand; *c*, bone forceps (craniotomy forceps); *d*, cranioclast (Braun's); *e*, cephalotribe (Breisky's, Lusk's); *f*, obstetric forceps; *g*, version; *h*, uterine forces; *i*, expressio fœtus. (4) Perforation of after-coming head.

2. *Cephalotripsy, before and after Perforation.*

Definition; Object; Indications; Conditions necessary; Dangers.

(1) Advantages and disadvantages of the cephalotribe. (2) Crushing accomplished by: *a*, cephalotribe; or *b*, cranioclast and cephalotribe. (3) Extraction or expulsion accomplished by: *a*, cephalotribe; *b*, cranioclast; *c*, obstetric forceps; *d*, crotchet; *e*, hand; *f*, bone forceps; *g*, uterine forces; *h*, expressio fœtus.

3. *Decapitation.*

Definition; Object; Indications; Conditions necessary; Dangers.

(1) Decapitation accomplished by: *a*, Braun's hook; *b*, Schultze's sickle knife; *c*, silk sling and scalpel; *d*, whip-lash (Pajot); *e*, wire écraseur; *f*, chain saw; *g*, ordinary scissors; *h*, Dubois's scissors. (2) Extraction of body: *a*, manual; *b*, instrumental. (3) Extraction of head: *a*, manual; *b*, instrumental.

4. *Evisceration.*

Definition; Object; Indications; Conditions necessary; Dangers.

(1) Perforation: *a*, knife; *b*, scissors; *c*, trephine. (2) Extraction: *a*, manual; *b*, instrumental.

5. *Amputation of Extremities.*

XIII. *Improved Cæsarean Section:*

Definition; Object; Indications; Conditions necessary; Dangers.

1. Operation (manikin).

XIV. *Porro's Operation:*

Definition; Object; Indications; Conditions necessary; Dangers.

1. Operation (manikin).

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THE CLINICAL ASPECTS OF KOCH'S METHOD IN BERLIN.

By HENRY S. STEARNS, M. D.

When at the last International Medical Congress, held in Berlin, Professor Robert Koch gave a few hints in regard to his investigations on tuberculosis, great anxiety was evinced by the entire profession to have his results made public as soon as possible. There is no doubt, however, that any formal statement would not have been made had it not been for the sensationalism thrown around the matter and the false impressions being given of it by the public press. To correct this state of affairs he was compelled to publish, on November 13th, in the *Deutsche medicinische Wochenschrift*, his now historical article entitled Mittheilungen über ein Heilmittel gegen Tuberculose. This was immediately translated and published in this country, and, instead of allaying excitement, raised it to a still higher pitch, which culminated in the emigration to Berlin of quite a number of physicians from different parts of this country, their primary object being, of course, to gain possession of some of the famous "lymph," and after that to study the clinical aspects of the treatment.

By the courtesy of Professor Leyden and Professor von Bergmann I was enabled to go into the hospital wards at almost any hour and to watch closely several of the most interesting cases. The form of tuberculosis showing the most incontrovertible evidences of the value of the inoculations or injections is lupus. A large part of Professor von Bergmann's private hospital is given over now to the treatment of lupus patients, and, without a single exception, results are there seen which six months ago would have been beyond a specialist's most enthusiastic hopes.

A most interesting case was that of a young Englishman whose treatment had been completed before I left Berlin. He was twenty-two years of age, and the disease was of six years duration, growing steadily worse in spite of between forty and fifty curettings and cauterizations, several of the operations having been severe enough to require the administration of an anæsthetic, until both alæ of the nose were destroyed, together with a portion of the septum and a small part of the cheek. There was an ulcer on the left cheek 1·5 ctm. in diameter, the septum was perforated, suppurating glands at the right angle of the jaw underlay lupus patches, and other small patches had made their appearance on the gums, hard palate, tonsils, and uvula. He suffered no pain and had no pulmonary infection.

While the general course of the disease had been from bad to worse, still he had noticed that when his general health improved temporarily there would at the same time be a very slight improvement in the sores. The treatment was begun on November 16th with an injection of 0·01 c. c. of the lymph, at 8 a. m. In about seven hours he was seized with a rather severe chill, intense headache, rapid gasping breathing, and fever, which by 11 p. m. had risen to 104·2° F. The temperature remained at this height for only half an hour, and then fell with sharp variations to normal by the evening of the next day. By 3 P. M. on the day of the injection all of the lupus patches had become swollen, intensely congested, and painful, and had, as he described it, a yellowish pustule form over each one. This appearance was changed in twenty-four hours by the drying up of the pustules and the formation of a scab, the redness, swelling, and pain also gradually disappearing as the temperature fell. At no time subsequent to the first injection was there any chill, and after each succeeding injection the pain, redness, swelling, and temperature were less than during the reaction of the preceding one. The duration of the treatment was eighteen days, in which time the patient received fifteen injections, the quantity being gradually increased to 0·1 c. c. On the eighteenth day of the treatment all the lupus patches were completely healed over; the right nostril was closed to such an extent that only an ordinary-sized probe could be passed through, but the opening of the left nostril was large enough to do duty for both sides. The ulcer on the septum had healed, but of course the perforation remained. The ulcer on the left cheek had a glazed appearance, and wherever the lupus had existed the healed spots were still somewhat red, resembling a fresh cicatrix. The fauces, tonsils, hard/palate, and uvula showed only an intense redness.

This case was selected out of a number placed at my disposal by Dr. De Ruyter, first assistant to Professor von Bergmann, as being as nearly as possible a typical one, and showing how even increasing doses caused less and less reaction as the tuberculous tissue was gradually destroyed. In ten cases the reaction began in from four to eight hours after the injection, remained at its height ordinarily less than an hour, and had in the majority of cases entirely disappeared in twenty-four hours. A very interesting feature in one of these cases was the intense pain felt in a hip joint that had been the seat of tubercular arthritis for nine years, but for the last fourteen years had given no sign of trouble. In two other cases enlarged glands at the angle of the jaw and in the neck swelled and became very painful during the reactions. In another case a curious eruption made its appearance, principally on the legs. This at first consisted of moderately red spots about 1 ctm. in diameter, sharply outlined and very slightly elevated above the surface. In a few days these became of a dull copper color and remained so as long as the patient was under my observation. In every case of lupus seen the cure of the infected areas was either progressing rapidly or was entirely completed. Of course it is too soon to say how permanent these cures are, but if the lupus returns in time we have here a therapeutic resource by which the frightfully disfiguring effects of this disease can be permanently held in check by subsequent injections, and if there was no other use to which the "lymph" could be put it would still be one of the most important additions to therapeutics received in a great many years. But that it has other and far more important applications is alleged for it by its discoverer, and these are: 1. The cure of tuberculous disease when seated internally as well as externally. 2. Almost invariable ability to diagnosticate the presence of tubercular disease wherever situated.

As regards the first of these allegations, there was nothing seen during my stay in Berlin which would warrant the assertion that internal tuberculosis could be cured by this method, unless it might be the more or less logical deduction from the results gained in lupus and in tuberculous ulcers of the larynx. But at the same time it must be borne in mind that a cure of pulmonary tuberculosis would of necessity be a more prolonged process than in external cases, where the necrotic tissue can be immediately thrown off, and in none of the cases seen had the treatment been carried on long enough to say authoritatively whether much benefit would result from it or not. On the contrary, in a ward of thirty-six beds, with twenty-seven patients undergoing the treatment, there were only two whose weight had increased, most of the others having remained stationary or having lost from one to two kilogrammes, and, besides that, there was in nearly every case a decidedly worse condition, as shown by the physical signs. This condition, however, it is maintained, is due to the necrotic changes caused by the treatment, and is a necessary preliminary to the final cure. Whether this is the case or not, only a much more extended experience with the remedy will show.

To cite one instance of the possible detrimental effects of the remedy, the case may be mentioned of a man who was admitted into the Charité Hospital on November 21st.

He was suffering from the effects of a pleurisy on the left side, contracted seven months before, when he had had removed by aspiration four litres of sero-fibrinous fluid from the left pleural cavity. Since then he had been steadily losing flesh and strength. On admission he was rather emaciated, but had no cough and no fever. The left side of the chest was markedly depressed, measurement showing a difference of 4 ctm. in favor of the right side. The respiratory movement on the left side was almost imperceptible, and, on auscultation, a few rough friction sounds were audible over the lower half of the lung on that side. On November 23d the first injection was given, for diagnostic purposes, 0·003 c. c. being the amount used. The temperature rose in ten hours to 103°, with all the usual effects of reaction, such as severe headache, slight chill, and pains in the bones, and in this case there was a rather severe pain on the left side of the chest over the seat of the old pleurisy. On November 25th the second injection, of the same amount of the "lymph," was given, and the temperature only rose to 100·2°. Cough now made its appearance, and, on examination, the sputum was found to contain tubercle bacilli, which of course confirmed the diagnosis of tuberculosis. On November 26th the third injection was given, the amount this time being 0·006 c. c. Moderate reaction resulted, and the cough was very severe until this had subsided. On November 28th the fourth injection was given, the amount being 0·01 c. c. The temperature rose to 102·2°. On November 29th the patient showed a loss of two kilogrammes in weight, and, besides, a number of moist friction sounds had made their appearance at the base of the left lung, being most marked anteriorly. On November 30th the fifth injection, the same in amount as the last, was given with no decided reaction. On December 2d the sixth injection was given, the quantity being 0·02 c. c. The temperature rose to 101·6°, and the whole front of the chest gave loud, moist friction sounds. On December 4th physical examination of the chest revealed the presence of a moderate effusion in the left pleural cavity, and on the last day I saw the patient. On December 6th the level of the fluid was slightly above the angle of the scapula.

In another case, in which there was a moderately large spot of consolidation in the upper lobe of the right lung, with tubercle bacilli in the sputum, under the treatment a portion of the consolidated area softened rapidly and a cavity was formed.

These results at first appear very discouraging and decidedly dangerous, but it must be remembered that, if we are to accept Koch's explanation of what he believes to be the pathological changes caused by his treatment, the above-mentioned effects are exactly what must make their appearance before the cure can go on to completion, and, besides, the duration of the treatment in these cases is too short to more than carry the patient well on into what may be termed the first stage of the cure. What the succeeding stages will be no man to my knowledge can state authoritatively. We can only trust that the future will bear out the discoverer's statements, and bear in mind that after all tubercular tissue has become necrotic it should be quickly got rid of, where possible, by surgical interference. In cases of phthisis this process will necessarily be a slow one, and in these cases there is great danger of further infection, as the bacilli are not destroyed; to use Koch's own words, "The endangered living tissue must be protected from fresh incursions of the parasites by continuous applications of the remedy."

In the use of the "lymph" a point always requiring the most anxious consideration is the more immediate dangers. These arise from two of the results of the inoculations: 1. Necrotic changes. Here it is apparent that where there are tubercular ulcers of the intestines it is entirely within the bounds of possibility that perforation and fatal peritonitis may occur, and there has already been a death in Berlin from this cause. 2. The swelling of the infected tissue may seriously menace life, and several tracheotomies have already been required where tubercular ulcers of the larynx were present, the swelling so nearly closing the rima glottidis that without prompt surgical interference the patients would have died from suffocation.

There can be no doubt that we have in this "lymph" a most powerful agent and a very dangerous one as well, when used carelessly, but there would seem to be no reason why in careful and competent hands it should not do an inestimable amount of good, more particularly in laryngeal tuberculosis, lupus, and tuberculous joint diseases. That it will give as beneficial results in the early stages of phthisis there would seem to be great possibility, but when cases of advanced phthisis come under consideration it may be seriously doubted whether it would be advisable to subject the patients to the decided dangers that must accompany its use, at least by the present method, where the agent is used in ever-increasing doses in order that the reaction may be as marked as possible. Perhaps it may be found advisable in these advanced cases to use smaller doses, thereby making the treatment slower but far safer.

A few words as to the method of administration as followed in Berlin. The usual dose to begin with in lupus cases with no apparent pulmonary or laryngeal complications is 0·01 c. c., and in phthisis from 0·001 to 0·003 c. c. As soon as the reaction has ceased and the temperature returned to normal, or nearly so, the same or only a slightly increased amount is again injected, and this plan is followed until the temperature fails to rise above 101°, when the dose is usually doubled, and so on, until in some cases as high a dose as 0·1 c. c. is reached. This amount, however, is exceptional; I have seen it used only once, and then it was the final injection in the case of lupus cited above and gave absolutely no reaction. Ordinarily 0·04 c. c. would be considered a large dose, even if the treatment was well advanced.

HYDROGEN DIOXIDE; A RÉSUMÉ.

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OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA,
OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY, ETC.

Within the past ten years the use of hydrogen dioxide (peroxide of hydrogen) has become quite general among practitioners whose business has led them to give special attention to some particular class of disorders. Many general practitioners, however, have not availed themselves of the benefits afforded by this comparatively recent addition to our therapeutic resources, owing to the expense and the care required in looking after details, together with the uncertainty which attended its employment. These difficulties no longer exist; but, when we consider the advantages to be gained from its use, the process of evolution has been remarkably slow, notwithstanding the sporadic attempts which have been made to attract the attention of the medical profession. Novel methods of treatment are too frequently shunned without investigation by regular physicians, while, on the contrary, these innovations are readily adapted to the wants of the quack.

In the present instance, although the *furore* for antiseptics continues unabated, the true position of oxygen has been ignored by those who should have given it their first attention. Long-continued and persistent effort has erected an imposing superstructure upon a theoretical foundation, losing sight of the marvelous influences constantly at work in nature. The corner-stone of this ornate edifice originally adopted was carbolic acid; the pilasters which gave strength and beauty to its walls were composed of carbolated gauze, while cornice and roof were made of protective which had been submitted to a carbolizing process. This highly flavored substance has given place to a number of others, some of which are safer, but no more useful; others are more efficient than carbolic acid, but, as usually employed, are far more dangerous. As the foundation for asepsis rests upon absolute cleanliness, so the foundation for antisepsis must rest upon an equally safe basis as regards the patient. The only agent known at the present time which fully meets our requirements is oxygen in some of its forms. While the spores of anthrax bacilli resist our most poisonous products—such as solutions of hydrochloric acid (two per cent.), boric and salicylic acids in concentrated solutions—oxygenated water alone, in sufficient quantity, was shown by Paul Bert and Regnard to possess the power of destroying the bacteria.

The wonderful properties of ozone are but partly understood; like some other powerful agents, it can not be safely handled, but it gives great promise of usefulness in the future. The statement has been made that ozone is but an allotropic form of oxygen, and that it is identical with hydrogen dioxide (the subject of the present article), and for all practical purposes, from a therapeutic standpoint, they may be considered substantially the same. Having, then, at our command a remedy possessing such remarkable properties as a bactericide, one which is perfectly harmless when brought into contact with healthy tissues, it will be worth while to study the indications for its use in the treatment of disease. In the first place, however, I should say a word with reference to the causes which have contributed to prevent its universal employment by physicians—causes already referred to incidentally.

1. *The expense* of an outfit and material for administration of this agent need not exceed five dollars for sufficient to cover a period of from six weeks to two months. The medicinal peroxide can be purchased in original packages at about the cost of filling a prescription at a first-class drug-store. An atomizer and vaporizer combined, especially required for this substance, costs no more than one equally complete for ordinary use.

2. *The inconveniences* attending the exhibition of hydrogen dioxide, by means of the vapor or spray, are purely imaginary. The use of these instruments by patients requires but little manual dexterity, and the instructions in regard to inhalations may be comprehended by the merest tyro. Children rather enjoy the mechanical features of the apparatus with the novel phenomenon of having the vapor expelled through the nostrils.

3. *The uncertainty* following the employment of the peroxide has arisen from various causes, and, as this is a subject of paramount importance, the items will be considered in detail. In the pure state hydrogen peroxide is exceedingly unstable, and, in order to render it less susceptible to the action of heat, which causes it to part with nascent oxygen rapidly, minute quantities of hydrochloric and phosphoric acids are added to the usual fifteen-volume solution; but this, instead of retarding, rather heightens the effect of the remedy when applied to unhealthy structures, especially mucous surfaces. When the container is allowed to remain in a warm room, or when it is not properly stoppered, the activity of the preparation is materially lessened, if not entirely lost. An excess of acid is objectionable, however, as it renders the peroxide irritating instead of soothing.

Commercial peroxide, which is used extensively for bleaching purposes and in the arts, is doubtless responsible for unsatisfactory results, but, as compared with the medicinal preparation, it is a very inferior product, sold at a cost of about eight cents a pound. Physicians should know that this product always contains a large proportion of acids (two to five per cent.), hydrofluoric, sulphuric, hydrochloric, oxalic, and nitric acids, and, knowing this to be the case, they should be careful to examine the reactions and see that the medicinal preparation obtained by patients is supplied in original packages. The commercial product is not "just as good" nor will it "do as well" for the patient; and if these suggestions are kept in view, the success of the peroxide is assured.

Another important thing which I have learned is, that the mixture of the peroxide with glycerin does not make "glycozone," but, instead, a mixture which generates slowly but constantly secondary products, which appear to possess irritating properties almost as toxic as those of formic acid, well known in Central Africa as a deadly arrow-poison. I am of the opinion also that when the peroxide is used in the form of an inhalation by heating with water, a considerable proportion of the nascent oxygen is transformed into ordinary oxygen before reaching the affected tissues, and while I can readily understand how this must detract from its efficiency, remarkably prompt results have attended its administration in this manner. The only obstacle in the way of securing immediate and favorable results from the exhibition of this agent is our inability to command at all times a freshly prepared and thoroughly reliable product, free from the impurities incident to its manufacture; but that difficulty, I believe, is no longer an excuse, as it can be supplied by the principal druggists throughout the country.

Pharmacology.—In order to estimate with some degree of accuracy the ultimate changes effected in living tissues from the employment of oxygen, and especially nascent oxygen, our study must embrace a recapitulation of the metamorphoses taking place in the protoplasm. This seems all the more necessary for the purpose of meeting objections which have been urged against the use of oxygen, owing to the supposed dangers of hyperoxygenation and a consequent increased rapidity of combustion, although these notions are altogether fanciful. Alkalinity of the blood enhances the oxygen-carrying capacity of the red corpuscles; hence the utility of alkaline mineral waters, which increase cell-activity. Ehrlich has shown that the function of the cell is to generate acid products of tissue-waste; but when these waste products accumulate, cell function is diminished or arrested, no more combustion taking place until acid products are removed or neutralized, thus indicating that we have to deal with a species of cell-automatism. Another significant question presents itself in this connection, viz., If increased alkalinity of the blood favors oxidation, how does it happen that the cell is not entirely consumed? This is explained by Ehrlich on the assumption that all protoplasm is enveloped by cell-juice (paraplasm), which expands or contracts in proportion to the demand of the cell for oxygen. Contraction of the cell takes place when there is no demand for oxygen, and at the same moment the increased thickness of the paraplasm prevents the absorption of oxygen. Alternate contraction and distention of the cell affects the thickness of the layer of cell-juice, and increases or decreases cell combustion; in other words, it prevents the too rapid oxidation of protoplasm.

In the light of the foregoing demonstration there can be no hesitancy in ascribing the therapeutical value of oxygen, in whatever form employed, to its influence upon cell activity. The entire organism being composed of cells, the conclusion is inevitable that all agents which increase the normal function of the cell increase in like manner the resistance of the organism to the inroads of disease. This is further exemplified by the active oxidation (combustion) which takes place when the peroxide is brought into contact with unhealthy tissues, and still no deleterious action is noticeable upon the normal structures, a statement of fact which can be applied to no other known antiseptic. Pus and all other unhealthy discharges are promptly destroyed, the affected structures being left clean and perfectly free from micro-organisms.

Therapeutics.—From the peroxide of hydrogen we may obtain, in the form of a vapor or spray, the therapeutic effects of nascent oxygen, and as a surgical application or antibacterial substance this product is far superior to the gas itself. Used in the form of a vapor by inhalation, it increases the secondary assimilation by favoring the elimination of excrementitious products through the stimulating effect upon internal respiration. Just as pure mountain air arouses the activity of functions which have been depressed and promotes health, so oxygen evolved in this manner increases tissue change and prevents the suboxidation which attends upon the arrest of cell function. Oxygen is a tissue-builder as well as an oxidizer of carbonaceous and excrementitious products. When it is introduced into the alimentary tract, abdominal fermentations are arrested by the destruction of the germs which produce them; unhealthy mucous secretions are destroyed, while the vitality of the cells lining the walls of the intestine is augmented, and their power against the absorption of ptomaines and leucomaines greatly increased. The surgeon will find the peroxide an efficient and most convenient antiseptic, as it can be freely used in cavities, in discharging sinuses, and upon the most delicate tissues, without danger of producing the slightest irritation. In all cases of threatened collapse, in low conditions of the system, and during convalescence from severe illness, the physician should bear in mind the wonderful revitalizing properties of this remedy. Perhaps the reader will gain a more practical idea of the applications by a reference to some of the more prominent indications, and I shall briefly pass in review some of the diseases in which it may be used with beneficial results.

In *anæmia and chlorosis*, along with suitable diet and exercise as adjuvants, the inhalations will prove most valuable; appetite increases, digestion improves, and there is a marked change for the better in the appearance and in strength. The feeling of *malaise* disappears within a few days after beginning treatment, listlessness is banished, and the patient takes an active interest in amusements which require considerable exercise, and seemingly with the greatest zest. *Erysipelas* is a disease in which the vapor may be used internally and the spray locally, apparently with the best results, as the progress of the disease is arrested by destroying the germs, increased resistance being given at the same time to the organism. In *septicæmia*, along with diffusible stimulants and suitable vascular tonics, it will be found an efficient adjuvant, and whenever it can be used locally in this affection the results will be brilliant indeed. *Lithæmia*, accompanied by cough, highly acid urine, with large quantities of uric acid and a diminution of the normal urea, is quickly benefited by the exhibition of the vapor. It is also a valuable adjuvant in the treatment of *rheumatism*, but with it should be combined the liberal use of alkaline waters, a judiciously selected dietary, and appropriate medication. It is also of decided benefit in the treatment of *diabetes mellitus* and in *albuminuria*, when it may be presumed to have some active influence in eliminating morbid products.

Since it has been determined that in *yellow fever* and *cholera* the poison germ is found only in the intestine, the peroxide promises to afford exceptional relief in these diseases. When it is introduced into the rectum, the heat of the body will cause oxygen gas to be evolved, while the local action of the drug will destroy all unhealthy products which may be present in the lower bowel. The nascent oxygen will be taken up by the absorbent structures and enter the general circulation; but if we accept the doctrine of phagocytosis, it will do even more than this, by reason of its stimulating action upon the modified white corpuscles, which are now regarded as the special enemies of bacteria escaping through the walls of the intestines. And for the same reason it may be used with advantage as a lavement in the treatment of *diarrhœa*, dysentery, and in typhoid fever. In the latter disease I have used the pure oxygen gas with very great satisfaction, and have found a solution of the peroxide superior as a mouth wash during the progress of this most tedious disorder.

The peroxide should be used in all forms of *indigestion*, more especially when the stomach is weak and depressed to such an extent that the usual antiseptics are not well tolerated. Those who use it once for the relief of indigestion, gastritis, gastralgia, and for the arrest of fermentation or an abnormal flow of mucus, will have no cause to regret the selection. A large number of *cutaneous affections* are dependent upon an unhealthy condition of the alimentary tract, such as urticaria, eczema, etc., and, of course, are benefited by the use of the peroxide.

Pulmonary affections have long claimed the attention of those who dabbled with oxygen inhalations, and it is in this class of cases where faithful attention to details will produce most marked effects, although I can not be convinced that any medicament in itself can arrest the progress of the disease. The continued use of the peroxide internally improves the primary assimilation; the regular and systematic inhalation of the vapor will not only improve the secondary assimilation, but will also destroy any morbid products with which it comes into contact in the pulmonary tissues, and, judging from my own experience with this agent, I have no hesitancy in saying that its value is not yet appreciated by a large number of physicians who, with it, might be the means of prolonging human life. My observations with the vapor and spray in *asthmatic conditions* have been surprising, and I have found them of signal service in meeting emergencies, such as asphyxia from coal gas, sudden collapse from hæmorrhage, typhoid, and other fevers. The long-continued use of the vapor has a marked effect in restoring the resiliency of the air-vesicles in *emphysema* when it occurs along with asthma in young persons. A gentlemen now under treatment has suffered from asthma since he was six weeks old, and is now twenty-five, but under this treatment he has gained weight, is able to sleep regularly every night, and has increased sixteen pounds in weight during the past three weeks, while the chest measurement has appreciably decreased. This method of treatment is valuable in *phthisis* at all stages, but it should be used as an adjuvant to other treatment and attention given to diet. In this connection should be mentioned the usefulness of the vapor in the treatment of *bronchitis*, subacute and chronic, and at the same time the value in aborting attacks of acute catarrh.

Inhalations of the vapor will prove useful as an adjuvant in neuralgia, anæmic headaches, general debility, malarial toxæmia, and corpulence, combined with diet adapted to the various disorders mentioned.

In *surgical practice*, when the solution of the proper strength is brought into contact with diseased tissues, a brisk effervescence takes place and continues until all the pus-corpuscles present are destroyed. This solution may be used topically in nearly all cases of catarrh of the upper air-passages in the form of a spray, and it may be used as an antiseptic after the removal of pus in *empyema*. The substance possesses the advantage over other antiseptics of being harmless, and can therefore be used freely in *diphtheria* and *croup*. There are so many indications for its employment that it would be difficult to mention all the *topical uses*, although the following may be referred to, viz., boils, carbuncles, indolent ulcers, carcinoma, and venereal diseases as an injection.

The gynæcologist will find numerous applications for this agent. It may be used in the form of a douche in leucorrhœa, elytritis, and vaginismus, and a cotton-wool tampon may be saturated with it and placed in a gelatin capsule (veterinary size) and introduced into the vagina in the case of ulceration, vesico-vaginal fistula, and endometritis. The ophthalmologist and aurist will likewise find that it furnishes them the most complete and safe antiseptic that can be had, and gradually its employment will extend to every department of medicine and surgery.

The most flattering commendations of "Marchand's peroxide of hydrogen (medicinal)" have been given voluntarily by numerous well-known authors and contributors to medical literature within the past few years, some of whom may be mentioned as additional evidence that the methods here recommended are worthy of further investigation: Dr. W. B. Clarke, of Indianapolis, Ind.; Dr. George B. Hope, Surgeon to the Metropolitan Throat Hospital, New York; Dr. J. Mount Bleyer, of New York; Dr. Robert T. Morris, of New York; Dr. Paul Gibier, Director of the New York Pasteur Institute; Dr. R. Charest, of St. Cloud, Minn.; Dr. E. R. Squibb, of Brooklyn, N. Y.; and others whose names can not now be recalled. Dr. Morris refers to it as "the necessary peroxide of hydrogen," and I have found Marchand's product to possess in a remarkable degree the properties so essential to success—viz., uniformity in strength, purity, and stability.

1910 Arch Street.

A Case of Acromegaly, the first noted in Ireland, has lately been under the care of Dr. Joseph Redmond in the Mater Misericordiæ Hospital in Dublin.

Clinical Reports.

A WARD CLINIC IN THE MONTREAL GENERAL HOSPITAL.

By R. L. MacDonnell, M. D.,
Professor of Clinical Medicine in McGill University.

(*Reported by Nurse Alice Hall.*)

Question. Mr. R.,* what cases were under consideration at the last clinic?

Answer. A case of gall-stone colic and a case of chronic pulmonary tuberculosis.

Q. What was the history of the first case?

A. The patient, a man of fifty, was at work laying down pavement a week ago, when he suddenly felt intense pain in the abdomen, he became collapsed, and was sent to the hospital directly. On admission, the pulse was slow, the temperature subnormal, the abdomen tense. Pain and tenderness were extreme but worse in the right hypochondrium.

Q. What did we say were the common causes of sudden, severe abdominal pain in a man of fifty, who had left his home in good health and after two hours became seized as this patient was?

A. Renal or biliary colic; stoppage of the bowels from hernia or some less common cause; sudden peritonitis from perforation of an ulcer, especially in the neighborhood of the appendix; and ordinary intestinal colic.

Q. What cause was diagnosticated in this case?

A. Gall-stone colic.

Q. Why?

A. There was no evidence of hernia. There was no general peritonitis, for the abdominal pain very soon became confined to the right hypochondriac region. The pain resembled that experienced in gall-stone colic, being paroxysmal and very severe. There was no intestinal stoppage, for the patient passed both flatus and fæces during the first twenty-four hours he was in the hospital.

Q. Can you exclude renal colic?

A. No.

Q. Were there any further evidences of gall stone?

A. After forty-eight hours there was slight yellowness of the conjunctiva, and bile was found in the urine.

Q. Was there any jaundice of the skin?

A. None was evident.

Q. Therefore you think you have evidence of gall-stone colic?

A. Not complete evidence, for the stone was not found.

Q. The nurse says that, though the stools have been most carefully examined and strained, yet no stone has been found. What may have occurred?

A. The stone may have slipped back or it may have been arrested in the duct, allowing the bile to pass it, which may account for the absence of jaundice.

Q. Then in what respects did this man Duffield's attack differ from renal colic?

A. In the character of the pain and its locality; and in the fact that it was unaccompanied by frequency of micturition or by shooting pains into the groin.

Q. How was he treated?

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* At McGill University two complete years of study are devoted to clinical work. Professor MacDonnell's class is composed only of those who have spent three years already in medical study and who will be candidates for the degree in March, 1891.

A. On admission a hypodermic injection of morphine (gr. ¼) was given, and several times repeated. He was also given small doses of calomel.

Q. And the result?

A. The symptoms are entirely relieved.

Q. Do you remember the condition of his liver?

A. The liver was enlarged, extending two inches below the margin of the ribs, and measuring six inches in the right mammary line.

Q. How was this accounted for?

A. You said it was possible that this might be the result of an early stage of cirrhosis of the liver.

Q. What right had I to assume such a thing?

A. Because the patient owned up to having been all his life most intemperate, especially in the matter of gin, and you pointed out the stellate veins upon his nose.

Q. Were there any other evidences of cirrhosis of the liver?*

A. No.

Q. Mr. C. D., what were the physical signs present in the second case we examined?

A. Diminished expansion of the right side of the chest; dullness on percussion of the left apex as far down as the third rib; and dullness at the right apex, extending to a lower level, but with a less defined lower margin and a corresponding area of dullness posteriorly.

Q. And with the stethoscope?

A. The breath sounds were harsh and subcrepitant râles were audible, especially at the right apex.

Q. What important aid to diagnosis was unmentioned?

A. Examination of the sputum.

Q. Mr. Farwell, you are the clinical clerk in charge of this case; what report have you to make?

A. (*Mr. Farwell.*) I have examined the sputa in the pathological laboratory. The mass brought up in the morning is muco-purulent and nummular, and contains elastic tissue, also a few tubercle bacilli in every slide examined.

Q. Mr. C. D., of what use is this report?

A. It is positive evidence of the nature of the disease.

Q. Were any important symptoms of pulmonary tuberculosis absent?

A. Hæmoptysis, night-sweats, and fever.

Q. What symptoms were present?

A. Cough, debility, loss of weight.

Case I.—*Dr. MacDonnell:* The new case I present to you to-day is that of John Farrell, aged sixty-six, a laborer, who was admitted on the 24th of October—*i. e.*, thirteen days ago. He was sent in from the out-patient room because he had sciatica. He complained of pain down the back of the left thigh, which was very severe and kept him from earning his living. There were also pains in the shoulders and arms, but there was no stiffness of the joints. He owns to having been very intemperate, but he says that he has never had rheumatism.

The family history—which is given in detail in the report I have here furnished by Mr. Morrow, the clinical clerk in charge—is negative.

After his admission we found physical signs of an emphysematous condition of his lungs, and some of you will remember that I pointed this out as being not uncommonly found in old people. The area of cardiac dullness was not encroached upon, but it was increased in extent, the apex beating under the nipple, and I said that probably the heart was much larger than the area of dullness represented, owing to the emphysema of the lungs. The sounds were somewhat weak, but there were no murmurs. There were no evidences of disease elsewhere. The pains were disappearing gradually, and the general condition was improving, when, upon the night of the 30th of October, a certain change took place, of which the patient will tell us himself. What happened to you on the night of the 30th of October?

The Patient: I went to bed as well as ever I was, with the exception of the old pains in my leg. About eleven o'clock I was seized with a violent pain, which ran from the pit of my stomach up to my neck. I could not get any breath on account of the pain, and I thought I was going to die. I was in a fearful state with shortness of breath. The nurse saw I was bad and sent for the house doctor.

Q. What did he do?

A. He ordered hot poultices and put something sharp into my arm, and after that I felt better.

Q. Did you have any chill? Did your teeth chatter, and did you feel cold?

A. No, sir.

Q. Did you have any sharp pain in either side of your chest?

A. No, sir. It was just in the middle and ran from there to there (from the top of the sternum to the epigastrium).

Q. Mr. E. F., here is an old man who, apparently in good health, for his sciatica was nearly well, goes to bed and awakes in urgent pain and dyspnœa. Can you suggest a cause?

A. It might be pneumonia.

Q. Why pneumonia?

A. Because pneumonia is sudden in old people.

Q. Would your stethoscope help you?

A. It might not, because the physical signs may not be present.

Q. What else might it be?

A. Angina from old heart affection.

Q. What else?

A. Acute pleurisy.

Q. One serous membrane can be affected, so can another?

A. Yes. It might be acute pericarditis.

Q. What symptoms of a sudden pneumonia are absent?

A. Chill and pain in the side.

Dr. MacDonnell: The report of the night nurse and that of the house physician corroborate that of the patient, which he has given remarkably clearly. Dr. McKechnie found no cause for the pain until the following day, when a very loud friction murmur became evident. I heard it on the morning of the 1st of November, and I have never heard any pericardiac friction sound so loud and distinct. There was no evidence of fluid in the pericardium. The friction sound was limited to an area of about the size of a half dollar, situated just where the fourth rib meets the sternum on the right side. It accompanied both sounds of the heart and was unaffected by a cessation of breathing.

On the night of the attack he went to bed with a normal temperature, but by the following morning it had risen two degrees and remained high until two days ago. The pulse ran up from 66 to 104. The respirations were not at all increased in number. (A point against the diagnosis of pneumonia.)

Q. Examine the chest thoroughly. What is the condition of the lungs? Are there any evidences of pleurisy or pneumonia?

A. No.

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* The temperature rose from 97° on the morning of admission steadily to 100° on the following morning. On the fourth evening it was 102·5°, on the fifth 101·5°, and did not come to normal until the end of the first week, when it suddenly fell, coincidently with the disappearance of the abdominal pain.

Q. Now put your stethoscope just here (at the junction of the fourth right costal cartilage and the sternum) and make slight pressure with it. What do you hear?

A. A friction sound.

Q. With what sounds is it synchronous?

A. With the heart sounds. It accompanies both.

Q. Have you found a cause for the illness of the 30th of October?

A. Yes. He probably had acute pericarditis.

Q. Can you positively exclude pneumonia? Remember that pneumonia and pericarditis often go together in the same subject.

A. The subsequent history is not that of pneumonia.

Q. Are you satisfied that he has acute pericarditis and that the onset of this disease was the cause of this attack on the night of the 30th of October?

A. Yes.

Q. Do you think it probable that acute pericarditis could occur without a cause, and until to-day we can not find one? Remember he has been ill for three days. What is the most common cause of pericarditis?

A. Rheumatism.

Dr. MacDonnell: The other causes are traumatism, which we need not consider; infectious diseases, which he has not; and Bright's disease, which we can exclude by the examination of the urine. The cause became apparent yesterday morning, when he began to complain of pain in the left great toe joint and afterward of pain in the right toe joint. Although he denies ever having had rheumatism, yet he acknowledges an old friend in this swelling of his left foot. He says he had an attack just like this in his left foot seven years ago. It never touched any other joint.

There is evidently now an acute joint affection to accompany the pericarditis, and that joint affection looks to me very much like gout. Acute rheumatism does not usually attack people for the first time at the age of fifty-nine; on the contrary, it is very rare for it to attack after thirty. And this old man, whom we have no reason for disbelieving, declares that he never had any joint affection in his life except this one attack in the left toe joint seven years ago.

1. Age is one point against acute rheumatism.

2. The joint affected is gout's own joint. It has attacked both of them.* Rheumatism prefers the medium joints, like the elbow and wrist.

3. The character of the swelling resembles that of gout. The tissues are red and glazed all round the joint. It looks hot and angry, and you can perceive it is exquisitely painful.

The points against the diagnosis of acute gout are these:

1. The absence of previous attacks save the one mentioned.

2. The presence of pericarditis, which is so common a complication of rheumatism and which is so rarely mentioned in connection with gout.

3. The rapid relief which followed the administration of the salicylates.

Altogether it is most probable that we are dealing with acute rheumatism, modified by the age of the patient and by a previous attack, as well as by the fact that he met with his illness in hospital where appropriate treatment was immediately at hand.†

Dr. MacDonnell: This patient, whom I present to you for the first time to-day, is John Jough, aged seventy-seven, formerly a sailor in the Royal Navy, latterly a journeyman tailor. He was admitted on the 30th of October, 1890. He says that he enjoyed good health until about four years ago, when his sight began to fail him and he could no longer work at his trade. For about the same period he has suffered from cough, pains in the chest, and breathlessness upon exertion. On the 30th—that is, four days ago—he went to get some medicine at the out-patient department of the hospital, and on the way home was seized with severe pain in the right side, shivering, and a sense of very great weakness, so that he could no longer walk, but was obliged to lie down on the pavement. The ambulance was summoned and he was brought to the hospital.

Q. Mr. F. G., can you suggest a cause for chill, pain in the side, and sudden prostration in a feeble old man?

A. It might be pneumonia.

Dr. MacDonnell: He was accordingly given a bed in this ward, and the following state on admission is noted in the report handed to me now by Mr. Dewar, the clinical clerk: The patient presented an anxious appearance and was evidently short of breath. There was a very distinct malar blush. He complained of weakness and pain at the pit of the stomach. The temperature was 100°; pulse 86; respiration 36. There was no cough.

Q. What physical signs are present?

A. The left side of the chest expands better than the right.

Q. Can you find the apex beat of the heart?

A. It is here, a good inch outside the nipple line.

Q. What other signs are there?

A. The area of superficial dullness of the heart is increased. It begins above at the third rib in the middle line; laterally, it extends from the right border of the sternum to the apex beat, just one inch outside the nipple line.

Q. Now listen to the heart sounds. What do you hear?

A. A very loud systolic murmur at the apex and a double murmur at the aortic cartilage.*

Q. Now percuss the lungs.

A. Both lungs are clear in front on percussion. Behind, the left lung is quite clear to the base, but the right lung is dull from the angle of the scapula to the base.

Q. The stethoscopic signs?

A. Bronchial breathing is very well marked over the dull area at the right pulmonary base. The respiration is hurried. There are mucous râles on inspiration and expiration. The vocal resonance is increased.

Q. Now the liver and spleen?

A. No signs of enlargement.

Q. The urine is reported to afford negative evidence of disease; what is your diagnosis?

A. Acute pneumonia with heart disease.

Q. What is the nature of the heart disease?

A. Valvular disease with hypertrophy.

Q. Of old standing?

A. Yes.

Q. Why?

A. Because there is evident enlargement of the heart.

Q. How does that tally with the history?

A. He said that he had cough, dyspnœa, and pain in the chest for several years.

Dr. MacDonnell: There are many instructive points in connection with this case. The diagnosis is plain. First, most probably as a result of atheromatous change, the valves have become incompetent; an hypertrophy of the walls of the heart has occurred which has completely compensated for the valvular defect, as is evidenced by the fact that he has never had dropsy of the feet, but probably compensation is beginning to fail and he applies for relief at the out-patient room. Probably the exertion of getting home brought about a condition of pulmonary stasis which may have predisposed to pneumonia, or the lungs may habitually have been in an engorged condition, ready to take on that disease. When an old person is attacked with severe pain in the side and chill, the diagnosis of pneumonia is almost certain. The malar flush in an old person is very suggestive, and here it was coupled with hurried breathing and fever. Even in the absence of physical signs the diagnosis would be almost complete.

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* The joints subsequently involved were the metacarpo-phalangeal joint of the right hand and the metatarso-phalangeal joints of both feet.

† *November 14, 1890.*—No appreciable effusion into the pericardium has taken place. The joint affection has quite subsided.

* Capillary pulse was well marked in the finger-nails during the period of pyrexia, but after the temperature became normal it was lost.

Two important symptoms of pneumonia were absent—cough and rusty expectoration. Both these symptoms are often absent in pneumonia, and are generally absent in senile pneumonia.

Q. (*To patient*). How is your cough since you came in?

A. Better.

Q. Do you cough at all?

A. Scarcely at all.

Q. Did you cough much before you came in?

A. Yes, a great deal.

Dr. MacDonnell: It would appear as if his acute pneumonia had cured his cough, and this has often been noticed. Patients who have chronic bronchitis with winter cough and who contract pneumonia are often relieved of their cough while the pneumonia is in progress.

Q. Are you short of breath now?

A. No, sir.

Q. Were you short before you came in—more than you are now?

A. Yes.

Dr. MacDonnell: The same is true of dyspnœa. Persons habitually short-winded do not appear to be so breathless when pneumonia attacks them as those whom the disease strikes when in good health.

(*The patient's bed is removed.*) In senile pneumonia the patient may die before physical signs have time to develop. Our pathological friends very often find pneumonias of whose existence we were not aware. Pneumonia is a very common cause of death in elderly people, and is frequently overlooked.

The physical signs differ from those of ordinary pneumonia. The dullness may not be perceptible. The crepitant râle is nearly always entirely absent and is replaced by the mucous râle such as we have heard here. But the breathing readily takes on a blowing character.

As to the prognosis of this case—when I examined the patient the day before yesterday I told my house physician that I thought the old man would die. He was very feeble; he already had advanced cardiac disease which would be likely to impede the action of the lungs, which were now seriously attacked. But to-day he seems better. There is improvement in every symptom and the disease does not appear to have spread. This is the fifth day, and we may expect a crisis before many more.

The treatment in these cases is not one of drugs. A patient in this condition must have the most nourishing diet and a free supply of stimulants. I ordered him twelve ounces of whisky in the twenty-four hours and no medicine.*

The New York Polyclinic.—Dr. James P. Tuttle has been appointed lecturer on diseases of the rectum and anus, and announces that he will hold clinics on Tuesdays and Fridays, at 7 P. M.

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NEW YORK, SATURDAY, DECEMBER 27, 1890.

LABORATORY RESEARCHES REGARDING EPHEMERAL FEVERS.

The causation of febriculæ has been the subject of some original experiments by Roussy, whose contributions have recently been published in the *Archives de physiologie.* His paper is a significant addition to our knowledge of the febrile process in certain minor affections that have hitherto received very little attention at the hands of biologists. He has observed, in the first place, the frequent occurrence of cases of high temperature of short duration, the cause of which has been the ingestion of stale beer, decayed fish, or stagnant water containing vegetable matter, such as hay, leaves, etc. The author holds the opinion that the cause of this kind of pyrexia is not a specific micro-organism, but a soluble chemical substance. Animals were experimented upon by intravenous injections of water containing decaying organic substances, with the result of producing intense fever, the temperature going as high as 107·5° F., with decided symptoms of gastro-intestinal disturbance. A like quantity of the same fluid taken into the stomach produced neither febrile nor digestive derangement.

Roussy paid particular attention to the high fever caused by the yeast of beer. That substance, when rubbed up with distilled water and after twenty-four hours filtered, yielded a filtrate which, injected under the skin, was followed by sharp pyrexia lasting from twelve to fifteen hours. That this fever was not due to the mechanical or other effects of the contained germs was proved by the fact that when a quantity of the yeast cells was collected on a filter and dried at 270° F., and then prepared for subcutaneous injection in distilled water, no pyrexial action was observed. That the fever was caused by the product of the living cell was shown by cultivating the yeast in bouillon and then carefully washing the cells at the bottom of the glass with sterilized water and allowing them to stand for three days. The injection of this material was followed by the same febrile agitation as that already observed to be due to the stale-beer injections. By a somewhat laborious process, Roussy was able to isolate a granular mass of a light-yellow color which caused febrile action when injected. This mass deliquesced upon exposure, forming a syrupy substance that adhered tenaciously to the sides of the vessel when dried. In a desiccator the precipitate became white and slightly scaly, and was readily pulverized; placed upon the tongue, it rapidly melted, at first giving a resinous taste, and after that a biting sensation which rose to a sense of strangulation. To this substance the author has given the name of pyretogenin. Small subcutaneous injections of this fever-producer caused in animals a rise of temperature within an hour or half-hour, often as high as 107° F., and accompanied by chills, vomiting, and diarrhœa. The pulse was frequent, hard, and small, and the skin was dry. There was an increase, during the febrile movement, in the amount of urea and carbonic acid eliminated. After six or seven hours the animal was again in a normal condition.

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* The patient eventually made a good recovery.

MINOR PARAGRAPHS.

DIABETIC PARAPLEGIA.

THE *London Medical Record* quotes from a recent lecture by Charcot on the organic or dynamic affections of the lower limbs, in the course of which the subject of diabetic paraplegia was considered. Since 1880, when Jules Worms wrote of the symmetrical neuralgias of diabetic patients, other writers, such as von Ziemssen, Buzzard, and Bernard, have pointed out other neuropathic conditions, such as formication, hyperæsthesia, dysæsthesiæ, and even absence of the knee-jerk, as the result of diabetes. The absence of the knee-jerk, in cases that are grave but not of necessity grave because of the large quantity of sugar excreted, is apparently the result of a peripheral neuritis, the spinal cord being found intact. In some cases locomotor ataxia is simulated by this symptom, by the lightning pains, by other sensory disturbances, and by the ataxic gait. But neither in the diabetic ataxia nor in the alcoholic variety is the gait really that of tabes, the muscular paralysis being most marked in the extensors of the foot. In fact, in all the forms of pseudo-tabes, whether diabetic, alcoholic, saturnine, arsenical, or from beri-beri, we see the "steppage," not the true ataxic walk. The front part of the foot falls, and the patient is obliged to step higher than usual to prevent the toes from catching the ground. The paralyzed muscles show the electrical reaction of degeneration. The spinal cord, however, is not the site of serious alteration, the posterior columns especially remaining quite free from impairment. In diabetic paraplegia there is not that pain on pressure of the limb found in the alcoholic variety, but the feet fall even when the patient is seated. Taken as a whole, the case exhibited by the lecturer bore the closest resemblance to the alcoholic cases, but there was no alcoholism about it.

THE NEW SURGEON-GENERAL OF THE ARMY.

AMONG the nominations sent to the Senate, by the President, on the 23d inst., was that of Dr. Charles Sutherland, to be Surgeon-General of the army. Dr. Sutherland entered the medical department of the army in 1852 and is, to-day, the ranking Colonel in that department. His services during the war of the rebellion won for him the brevets of Lieutenant-Colonel and Colonel; and his appointment to the highest position in the department is but a just recognition of those services. In 1866 he was appointed Assistant Medical Purveyor, and his experience in that capacity fits him for the office which, we feel assured, he will fill with credit to himself and to the corps which he represents.

THE LIBRARY OF THE NEW YORK HOSPITAL.

ON the 1st of January the librarian, Dr. John L. Vandervoort, will retire from the office of which he has discharged the duties almost continuously since 1837. At the time of his appointment the library consisted of only 4,166 volumes, and was open for the delivery of books to those privileged to use them only on stated days, and for from an hour and a half to two hours at a time. It was not for some years after that that a daily service was established. From the time of the dismantling of the old hospital building in Broadway to the opening of the present building in Fifteenth Street, the library was moved several times, but during all that time Dr. Vandervoort managed to make it available to those who had occasion to make use of it. It is soon to be moved into a new building adjacent to its present quarters. More than 14,000 volumes have been added to it during Dr. Vandervoort's tenure of office. We learn that his son will continue to discharge the duties of assistant librarian. Both the hospital authorities and the medical profession of New York are indebted to Dr. Vandervoort for his long and intelligent service.

A CHRISTMAS SENTIMENT REGARDING THE MEDICAL PROFESSION.

THE following seasonable tribute to our profession may be found in the Christmas number of *All the Year Round* in a story by Fargeon: "Surely there must be some beneficent influence at work that humanizes and softens the heart, that makes it respond willingly and cheerfully to the appeals of those who suffer! Numberless are the instances that can be adduced of the wonderful goodness of physicians, renowned and eminent, who sacrifice their time without expectation or desire of return for the inestimable services they render. I have no hesitation in saying that of all arts it is the most ennobling and beautiful, and that its record of kind deeds is matchless and unapproachable. With all my heart I say, 'Heaven bless the doctors for all the good they do, for the good they are enabled to do.'"

A CONTRIBUTION TO THE ÆTIOLGY OF JACKSONIAN EPILEPSY.

IN the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, Dr. K. Yamagiwa calls attention to two cases of severe cortical epilepsy in which post-mortem sections of the brain revealed disseminated patches of *Distoma pulmonale* in the cortex. Microscopic examination showed, in connection with the parasites, giant-cell and round-cell infiltration, thickened blood-vessel walls, and new connective-tissue growth. Further research disclosed the Distoma in the lungs.

HEMIANOPSIA FOLLOWING UTERINE HÆMORRHAGE.

DR. A. CHEVALLEREAU, in the October number of the *Archives de tocologie*, details the histories of two cases of hemianopsia which came on after severe uterine hæmorrhage. The author was of the opinion that the prolonged syncope which followed the hæmorrhage might have given rise to blood coagula in some of the branches of the cerebral arteries which supplied that part of the cortex governing vision, or some of the fibers of the optic tract.

THE TETANUS GERM.

DR. M. REYNIER, in the *Revue de chirurgie*, gives the result of various experiments on animals with a culture of tetanus germs. In every instance, after the inoculation the typical symptoms were developed, and death followed in a short time. The microscope demonstrated the bacilli of Nicolaier in every case.

THE CORROSIVE-SUBLIMATE TREATMENT OF GRANULAR CONJUNCTIVITIS.

The treatment of different forms of granular conjunctivitis with various strengths of corrosive-sublimate solution seems to have given good results in the hands of Guaita (*Annales d'oculistique*). The details of the treatment are published in the *Union médicale*. The sublimate is used in strengths of from 1 to 300 to 1 to 500, and it is applied to the palpebral conjunctiva with a camel's-hair brush every two hours or according to the severity of the case. If the disease is slight, a collyrium of 1 to 1,000 is given. There have been no symptoms of poisoning or complications to the cornea from this method, but very prompt amelioration of the symptoms has followed its employment in every instance.

AN EPIDEMIC OF TUBERCULAR PNEUMONIA.

Dr. Küssner, in the *Centralblatt für klinische Medicin*, mentions five cases of this affection, the histories of which had been previously published by Dr. L. Dor, in the *Province médicale*. The cases had occurred in close connection in a hospital ward. Four of them were rapidly fatal; the fifth ended in recovery. Autopsies disclosed the fact that tubercle bacilli were present, though no marked symptom had existed during life. There was great infiltration of the lung tissue, and, besides the characteristic bacilli, there was another micro-organism present, the one which had evidently caused the rapid course of the pneumonia.

ITEMS, ETC.

The Koch Treatment at the County Medical Society.—On Monday evening, the 22d inst., a very large audience of physicians assembled at the monthly meeting of the Medical Society of the County of New York to listen to the first public report made in New York on the subject of Koch's treatment of tuberculous disease as observed by Dr. John H. Linsley in Berlin. The speaker, who had followed the treatment in Gerhardt's clinic at the Charité, prefaced his statements by an effective word picture of the daily scenes at the opening of each clinic. He described the halls and approaches to the clinic rooms as so thronged by physicians as to be almost impassable to the patients as they elbowed their way to the professor's table, each with a glass containing the individual's sputum. If examination demonstrated the presence of tubercle bacilli, each patient received as a first injection one milligramme of the liquid. The patients were then put to bed and the changes in their condition were carefully noted. No previous histories of the cases were taken, and no effort was made to obtain them. The inoculating needle was used from one patient to another, and no attempt was made at cleansing or disinfecting it. No local irritation at the site of the puncture had followed in any of the cases observed. The only precaution taken was the immersion of the needle and syringe in absolute alcohol before this general use. The characteristic results usually made their appearance in from two to thirty hours after the inoculation. The first symptom of reaction was the rise of temperature, which varied from 100° to 106° F., though occasionally it became subnormal. This was followed by persistent headache, pain in the back and limbs, and usually a sharp chill. These disturbances generally subsided within twenty-four hours. The second injection was not given until all symptoms of the initial reaction had entirely disappeared, and all subsequent injections were administered upon this basis. The dose in pulmonary cases was gradually increased to ten milligrammes. The patients were examined as to their general condition every two hours.

The reactions were of so varied a character that the speaker thought the treatment should only be carried on, at least at present, in a properly officered institution. Gerhardt had not discharged as cured any of his patients with phthisis pulmonalis. He had stated that the sputum in this class of cases was at first increased in quantity and became thicker, and then got thinner and mucoid in character. The number of bacilli was often found to be increased, but they gradually seemed to undergo a certain involution process; they would become club-shaped and appeared to be suffering from an insufficient or improper pabulum. The weight of many of the patients increased and there was a cessation of night sweats, with apparent improvement in the general health. Professor Gerhardt had stated that the effects in these cases of phthisis could not be demonstrated for many months. He had expressed himself as considering the prospects most encouraging. Dr. Linsley then detailed what he had seen of the lupus cases in the clinic, and his statements agreed with those made by Dr. Stearns, whose observations are recorded in full in this issue. While, he said, there was little doubt that ere long the liquid would be made on a large scale by the German Government, still it was hinted that there existed at present points of detail on which Koch and the Government were not quite in accord. It was very doubtful, in the speaker's opinion, if the actual composition of the liquid would be made known for a long time. It had been suggested by the German physicians that Koch was not quite satisfied with the therapeutical effects so far achieved, and that, if by further work he could find some other ingredient to add to its efficacy, it would be to his interest to do so, and until then he should abstain from any direct statements as to the composition.

Dr. F. Warner, who had on that day returned from Berlin, where he said he had had ample opportunity to make the injections and to watch the results, substantiated Dr. Linsley's remarks in general terms. Of the pulmonary cases, he stated that he had not observed any results worth recording, though it must be admitted that many of the cases treated had been in very advanced stages. He had seen some very good results in cases of laryngeal tuberculosis.

Dr. S. Baruch said that he had made, so far, sixty-six injections on thirteen patients. The injections had been given by his house physician, Dr. Max Rosenthal, at the Montefiore Home. While it was too soon to hazard any conclusions, he might say that, as a general proposition, the cough and expectoration had decreased in the pulmonary cases. Two of the Home patients who were about to be discharged as cured of pre-existing pulmonary lesions had been given an injection of one milligramme, under which they had undergone immediate reaction. He thought these experiments confirmed very prettily the allegations made as to the diagnostic value of the injections.

The University Medical Magazine.—It is announced that the size of this excellent journal is soon to be increased by the addition of from sixteen to twenty-four pages to each number, mainly to give space for fuller abstracts of current literature under the direction of Dr. William Pepper and Dr. James Tyson (medicine), Dr. D. Hayes Agnew and Dr. J. William White (surgery), Dr. Horatio C. Wood (therapeutics), Dr. William Goodell (gynæcology), and Dr. Barton C. Hirst (obstetrics).

The Brooklyn Post-graduate Undertaking.—Articles of incorporation have been filed in Brooklyn as a first step toward the establishment of a post-graduate hospital and school in that city. The management of the institution will be vested in a board of medical councilors, among whom are Dr. Charles Jewett, Dr. Fowler, Dr. Jeffrey, Dr. Evans, and Dr. Butler. The aim of the faculty will be to cover every field of study in surgery and practical medicine. An outdoor department is included in the future scope of the enterprise.

Society Meetings for the Coming Week:

Tuesday, *December 30th:* Boston Society of Medical Sciences (private).
Wednesday, *December 31st:* Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).
Thursday, *January 1st:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Washington, Vt., County Medical Society (annual—Montpelier).
Friday, *January 2d:* Practitioners' Society of New York (private) Baltimore Clinical Society.
Saturday, *January 3d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

ALVEOLAR ABSCESS; A REJOINDER TO DR. M. L. RHEIN.

New York, *December 15, 1890.*

To the Editor of the New York Medical Journal:

Sir: In your issue for December 6th a letter appears, written by Dr. M. L. Rhein, criticising my article, The Importance of Prompt Treatment in Alveolar Abscess, published in your Journal for November 22d. I should like to reply to the same.

I am aware that oral and dental surgery have been recognized as specialties in medicine, but I am also aware that large numbers of patients suffering from alveolar abscess present themselves every year in all the large hospitals and dispensaries and to the general surgeon for relief, and that they require "prompt treatment."

The ætiology of the fistulæ resulting from these cases has sometimes puzzled the ablest surgeons, so it is not strange that patients should consult their physicians about them and not the dentist.

I regret that I can not accept the compliment the writer pays me when he calls the classification of these abscesses which I have chosen—viz., into superficial and deep—"original" with me.

He will find the same division given in an article by Dr. Briggs, entitled Diseases and Injuries of the Jaws, in the *Reference Hand-book of the Medical Sciences.*

This division seems a most natural one, and the dividing line to be the fold of mucous membrane passing from the cheek to the gum. In the superficial form the apex of tooth-root does not pass below this fold; in the deep form it does.

This is a point made by both Bryant and Holmes in their *Systems of Surgery.*

As these abscesses have a tendency to point in a direction horizontal to the point of origin, the former usually burst into the mouth and the latter (when on the outer alveolar surface) externally upon the face. Of course, either of these may be acute or chronic. To call one abscess chronic simply because it opens into the mouth and another acute because it penetrates the deeper tissues and burrows in all directions seems absurd. The first attack of the superficial form is certainly an acute affair, and when abscesses of the deep form burst externally they are generally chronic enough to suit the most fastidious. The writer's "embarrassment" over the lack of information of the profession on dental topics is truly touching, but I have yet to know that a fair knowledge of dental pathology in its relation to diseases of the jaw is not of far more importance to the surgeon than the anatomy of the lower extremities is to the student of dentistry.

Speaking of the pathology of these cases, I remarked that the "products of decomposition pass through the tooth canal and set up an acute inflammation of the circumdental membrane," and the word periosteum was not used, as the writer hints.

He hopes to instruct the profession by use of the word pericementum, but, according to the *American System of Dentistry,* vol. iii, page 660, pericementum, peridental membrane, dental periosteum, etc., are synonyms.

We are further informed that this inflammation is due to a putrefaction of the dead pulp. Dr. Rhein might have gone a step further and spoken of the micro organisms which cause this.

Although a tooth may be fairly well nourished by its circumdental membrane, when the pulp of a tooth is dead, producing the characteristic discoloration, when there is insensibility to heat and cold and the tendency to periodontitis, the tooth is generally designated as dead.

In speaking of the treatment of these cases hardly anything was said about the superficial form, or "gum-boil." Its course is usually short, and rupture into the mouth occurs either spontaneously or from slight pressure. The patient consults his dentist about these matters; they are of little or no interest to the physician. It is "the dangerous and insidious cases" in which there is "great danger . . . from septic symptoms . . . due to the absorption of pus" (as the writer remarks) that concern the physician.

The writer's desire to save the tooth is a laudable one, and the method of treatment he prescribes should have been mentioned in my article when speaking of abortive measures. That more particularly concerns the dentist, however.

If the cases could be seen in time, I have no doubt many teeth might be saved; but there lies the difficulty. Frequently these patients consult no one until suppuration has taken place, considerable of the alveolar process has been absorbed, and the surrounding tissues are infiltrated.

In such a case I doubt if any injections of hydrogen peroxide or bichloride of mercury are alone enough to stop the process. Moreover, many of these abscesses are due to the stump of a root wholly or in part covered up by the gum.

I infer from Dr. Rhein's letter that, even after the most careful treatment, the trouble may recur, and I believe this is the case much oftener than he is willing to admit. I have seen several patients lately in private practice who had had this very experience, and, after weeks of treatment, finally became disgusted and had the teeth drawn, when the trouble ceased at once. I have had a little personal experience also in this matter which I am not likely to forget. Following the treatment of a tooth in a similar condition, after the manner described by him, I had a number of mild attacks of alveolar abscess which were aborted, but in January last one came on which could not be cut short. In an almost incredibly short time the face became frightfully swollen and the temperature rose to 103° F.

A professional friend was called, who, after other means had failed, ordered the tooth extracted. A free incision was made within the mouth, when quite extensive periostitis of the jaw was found. Two weeks and a half of careful treatment were required before it was healed up.

It is hardly necessary to say, I wish the tooth had been drawn some time before. My critic remarks that he has never known extraction to be delayed when it has been "determined upon." There is just the point; when is it determined upon?

Desire to save a useful organ may cause delayed extraction, but not infrequently, I am afraid, there is another reason.

There seems to be (with many) a dread of some impending danger if the tooth is drawn while the inflammatory process is at its height.

In an article by Heath, in his *Diseases and Injuries of the Jaws,* Mr. Cattlin, F. R. C. S. (who was then president of a dental association in England). is quoted as follows: "It was the erring practice of some to wait until the inflammation had subsided; but if the tooth be retained . . . sometimes causes necrosis . . . often ending in abscess . . . permanently disfigures the face."

This is no "misconception of facts," but frequently when such a patient is directed to a dentist by his physician, a message must be sent by the latter saying that he will take the responsibility of extraction. This is a fact well known to physicians, and since the publication of the article in question I have had letters from several members of the profession saying this had been their experience also.

Trouble may follow, it is true, in rare instances, as after any other surgical procedure, even the most trivial. The remark of the doctor about extraction being only useful in dispensary practice would seem to imply that these teeth are only retained in the wealthy, who can afford to pay for weeks of treatment (even if the tooth has to come out in the end).

The writer's comparison of false teeth to artificial eyes shows a lack of appreciation for that marvelous and beautiful organ which is so well called "the light of the soul." The artificial eye, no matter what material it may be made from, never attempts to replace the function of the natural organ, but is only for appearance, whereas I know of several instances in which troublesome teeth have had much to do with the patients' ill-health, and in which, after they were extracted and replaced by artificial ones, the digestion and general health rapidly improved. Surely in these cases the artificial teeth were better than the natural ones.

In reference to the treatment of these abscesses by extraction, I will quote a few authors: Holmes, *System of Surgery*, says: "In all cases of alveolar abscess, extraction of the diseased or dead tooth is the cure." Tomes, *Dental Surgery*, says: "If inflammatory action has gone on for a day or two, it is probable that suppuration can not be avoided, . . . in that case the tooth should be removed."

Heath, *Diseases and Injuries of the Jaws*, says: "If there be an obvious source of local irritation, extraction of the tooth, or stump of a tooth, should be immediately performed." Bryant, *System of Surgery*, says: "In alveolar abscess of the lower jaw, a prominence passing out from any diseased tooth . . . will point to the tooth which should be extracted."

Garretson, in his *System of Oral Surgery*, 1890, gives many cases in which fistulæ due to alveolar abscess were treated by extraction, and rapid recovery followed.

In the *Reference Hand-book of the Medical Sciences*, article on Diseases and Injuries of the Jaws, Dr. Briggs says: "The treatment of alveolar abscess is free incision and extraction of the peccant tooth."

Many other authors might be quoted if time and space permitted.

However, there are two sides to every question, notably so in medicine, and the treatment of alveolar abscess is no exception to the rule.

Any number of works on dentistry could be referred to, I presume, telling how these abscesses have been treated by injections of carbolic acid, etc.; how the tooth has been extracted, more or less of its root amputated, the alveolar cavity cleansed, and the tooth returned to its socket, where it has reunited; in others, how the roots have been amputated, and more or less of the alveolar process removed with the tooth *in situ*, and many other forms of treatment. But, nevertheless, the fact remains that the shortest, surest, and quickest treatment of alveolar abscess (when the trouble can not be aborted) is early extraction.

J. D. MacPherson, M. D.

Proceedings of Societies.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

Third Annual Meeting, held in Atlanta, Georgia, November 11, 12, and 13, 1890.

The President, Dr. George J. Engelmann, of St. Louis, in the Chair.

How shall we treat our Cases of Pelvic Inflammation?—A paper on this subject, by Dr. R. B. Maury, of Memphis, Tenn., gave a comprehensive *résumé* of the pathology of chronic pelvic inflammation as it had been clearly demonstrated by Bernutz, Polk, Coe, and others, and by the results of abdominal section. This pathology was that of pelvic peritonitis dependent upon tubal disease, not cellulitis. The author declared the term chronic cellulitis a misnomer, a pathological condition which existed only in the imagination of the physician, a term which had been productive of pernicious results in practice, and which should no longer be used in connection with non-obstetric pelvic inflammation.

When the pathology rested upon such positive and abundant evidence the question might be asked, Why reopen a discussion upon it now? Because it was evident from our society proceedings and hospital reports that great confusion existed in the medical mind to-day in regard to it. Dr. Byrne's case, discussed in the New York Obstetrical Society during the present year, was taken as an illustration. In speaking of such cases, the great tendency to relapses in chronic pelvic inflammation was illustrated by two cases in which purulent tubes were found five and seven years after attacks of peritonitis and when it was supposed the patients had been entirely restored to health. Upon the subject of treatment, the writer admitted that by non-surgical therapeutic measures large intraperitoneal exudations were often absorbed, and even some tubal and ovarian inflammations entirely disappeared, and recovery seemed complete. But this was the exception and by no means the rule. For the radical cure of chronic pelvic inflammation non-surgical treatment failed in a majority of the cases. A great many women suffering to a moderate degree continued to do so in spite of the best-directed non-surgical measures, and perhaps wisely elected not to undergo operation. As a rule, the only radical and permanent relief was afforded by removal of the diseased appendages. The treatment of pus collections, of course, required abdominal section.

The Motive and Method of Pelvic Surgery.—Dr. Joseph Price, of Philadelphia, followed with a paper in which he said that pelvic surgery must be considered apart from abdominal surgery. It was distinct from it in the nature of the lesions dealt with, in the difficulties it presented, and in the complications and embarrassments to routine technique. No where as much as in pelvic surgery did the distinction between the general surgeon and the specialist in pelvic disease stand out clearly. Pelvic adhesions in appendicitis, for instance, Mr. Treves would deal with by the knife. If this was feasible, why not put the knife to ovarian and tubal abscess, to all intestinal fixation by inflammatory processes, and the like? The very suggestion of such method to the mind of the specialist accustomed to deal with all the complexities of pelvic surgery was fraught with evil, and this mere suggestion only made it clear that general surgeons, in so far as they were entirely wedded to the knife in removing disease, fell short of the demonstrated harmfulness of its application in pelvic work.

Relative to electricity, the speaker said that electricians yet talked learnedly of the undetermined place of electricity in the treatment of ovarian cysts, but tar-water and tractors had gone to their long rest. The time must yet come when the allegations made for electricity as a universal panacea must be exploded, and its real, limited, and narrow horizon of usefulness he well defined. The pernicious effect of so-called cures of reported complicated cases, adhesions, inflammations, and the like, by men without training, who looked only at the ampèremeter while they adjusted a clay pad or introduced a galvanic sound, was not to be overestimated. He had repeatedly shown, by exhibited specimens, the fallacy of the pretense of exact diagnosis made by these men, and the arguments were irrefutable. He believed that the only position assumed by the electricians that had the slightest foundation in fact was that electricity would sometimes control hæmorrhage and relieve pain. That it cured either was not proved.

In dealing with adhesions, the first point to be sought after was to find a crease or crevice into which some progress could be made. In separating intestinal adhesions, they should be broken as far from the bowel as possible. The strings of adhesions might be dealt with according to their size; sometimes it was best to remove them; at others there was no necessity for this. In doubtful cases their removal was the better surgery. Once the adherent mass was removed, the ligature should be applied close to the cornu uteri.

In the treatment of extra-uterine pregnancy his urgent advice was to operate without delay when the symptoms pointed to the disease, with the assurance that delay would only complicate matters and sacrifice the life of the mother.

Suprapubic Cystotomy in a Case of Enlarged Prostate.—Dr. W. H. H. Cobb, of Goldsboro, N. C., read a paper on a case of this affection. The patient, a farmer, married, aged forty-nine years, of a rheumatic diathesis, had dated his troubles back to 1881. While attending to the duties of Register of Deeds, he had carelessly allowed overdistention of his bladder to occur, and had suffered more or less since that time. In 1882 he had had an attack of nephritic colic and had passed a small calculus, similar in size and shape to a grain of wheat. On three different occasions he had passed dark, gritty deposits. In 1883 he had suffered much inconvenience and some pain in urinating. In 1887 he had passed a dark, gristly, bloody substance of about the size of a corn-pea, accompanied by much pain and bloody urine. For the past three years he had suffered much with cystitis in a very aggravated form, with great pain and difficulty in defecation; the urine contained much blood, pus, and mucus. The patient's efforts to relieve his bladder and bowels had been tormenting, and night after night had been spent in walking over his premises, with groanings so severe as to disturb his neighbors. The patient had consulted the author on June 15th last, and, from the history of the case, he had suspected vesical calculus, but had failed, upon examination with the sound, to detect any stone. A digital examination, however, *per rectum* had disclosed the right lobe of the prostate greatly enlarged, rough, indurated, exceedingly tender, and sensitive. After consultation by letter with Dr. Hunter McGuire, he had decided upon suprapubic cystotomy as the only hope of permanent relief, which had been done after the method of Dr. McGuire on June 23d. At the expiration of two months (August 23d) he had found the prostate perfectly normal, with no symptoms of cystitis, and had withdrawn the plug, allowing the fistula to unite, which it did in about ten days. His patient now performed the act of urination and defecation without the slightest trouble, expressed himself as entirely relieved, and was at present following his usual vocation.

Inflammation in and about the Head of the Colon.—Dr. L. S. McMurtry, of Louisville, read a paper on this subject. He said the teachings to be found in systematic treatises on surgery and practical medicine upon inflammation and its results in and about the caput coli were not only worthless, but positively misleading. This was true not only as to pathology and treatment, but even as to the anatomy and relations of the cæcum and its appendix. It was well known that inflammatory changes in the vermiform appendix were in almost every case the origin and seat of the inflammatory diseases about the caput coli. Inflammation of the cæcum was very rare, yet the testimony of surgeons and pathologists was abundant that, in a certain proportion of cases, cæcitis, with perforation, occurred without involvement of the appendix. Regnier, in 1886, had operated in a case presenting symptoms of intestinal obstruction with peritonitis, doing an abdominal section. At the autopsy, cæcitis, with perforation, had been discovered. In 1888 the speaker had operated in a case of perforative cæcitis, and sutured two perforations in the cæcum. His patient had recovered, and had been present in the surgical section of the American Medical Association in May of that year.

Fæcal impaction had been mentioned by surgical writers as a cause of inflammation about the head of the colon. Pain over the cæcum, with a fæcal mass perceptible on pressure, often occurred, but rarely, if ever, associated with peritonitis. A few weeks since, the reader had seen a case in conjunction, with Dr. H. H. Grant, of Louisville, in which a localized peritonitis had existed in the right iliac fossa, with a well-defined, firm tumor. Abdominal section had been done, and, instead of ecphyaditis, they had found the disease to be cancer of the caput coli. Irrigation and drainage had rescued the patient from the immediate danger begotten by active peritonitis. The patient was a woman of middle age, and the ingrafted peritonitis had presented the symptoms of an acute condition. Malignant disease of the cæcum had not, so far as the writer was aware, been mentioned by writers upon this subject as a probable condition in the diagnosis of deep-seated inflammations of the right iliac fossa. The decision to operate should be determined more by the grade of the inflammation than by the time it had existed. When a diagnosis had been made, and three days had elapsed without subsidence of pulse and temperature, the operation should be done.

The reader submitted the following conclusions: 1. Inflammation about the caput coli was as a rule, inflammation of the appendix. 2. A certain proportion of cases would end in spontaneous recovery by resolution. In these, recurrence of the disease was common. 3 In the larger proportion the disease would endanger life, and might at any moment assume a condition practically hopeless. 4. Early operative interference involved less danger than delay, and should be resorted to in all cases in which a high grade of inflammation was persistent. 5. The essentials of the operative technique were brief anæsthesia, quick and thorough work, removal of the appendix, irrigation, and drainage. The lateral incision was preferable to the median.

The Causes of Ill Health in American Girls, and the Importance of Female Hygiene, was the subject of the President's address. He showed that the health of the American girl was threatened and impaired by causes more or less avoidable, as they were due to our methods of life, our methods of training and education; that the physique of this girl, most favorably situated amid auspicious possibilities, was imperfect; her brain overworked, her nerve power exhausted, her functions impaired, and reproduction endangered—all by reason of the susceptibility of her peculiar organization, and the increased impressibility of the sensitive system during the years of development, in which it was subjected to the severest strain. The remedy was attention to woman's peculiar organization and the cyclical waves of her dominant function; or, in other words, harmonious development and occupation of nerve and muscle; diminished brain work and nerve stimulation with increased and co-ordinate physical exercise; increased protection and diminished compression by dress; self-knowledge and individual care during periods of heightened susceptibility. Changes were necessary in custom and fashion, in methods of labor and education. A harmonious co education of mind and body should be approximated, with coincident maintenance of proper hygienic conditions.

Indications for Operation in Ectopic Gestation.—Dr. C. A. L. Reed, of Cincinnati, read a paper with this title. He started with the assumption that the only proper treatment of ectopic gestation was by laparotomy, or, more properly, cœliotomy. While the profession had become practically unanimous that this was the proper line of treatment, the indications for operation had been less definitely decided upon. This conviction had been forced upon the observer, not only by a study of the literature of the subject, but by encountering patients that had been advised against operation by their attending physicians, until hæmorrhage within the pelvis had threatened a fatality, which was but too frequently realized. The most legitimate excuse for this dilatory practice was to be found in the confusion which had arisen with regard to the supposed uniform causal relationship of ruptured ectopic-gestation sacs to pelvic hæmatocele, and the division of the latter into "primary" and "secondary" rupture. These terms were unfortunate, and, as used in this connection, might be entirely arbitrary. Primary rupture was made to mean rupture beneath the peritonæum, instead of *first* rupture, as the etymology of the word would imply, while *secondary* rupture was made to mean rupture within the peritonæum instead of second rupture; whereas an intraperitoneal rupture might be, and frequently was, a primary rupture when spoken of with reference to the sequence of events in ectopic gestation. There would be no serious confusion even here if we were not also taught to leave extraperitoneal hæmatoceles alone to be taken care of by absorption, and if we did not add that, as these hæmatoceles were generally caused by ruptured ectopic-gestation sacs, we were to relegate these cases also to the expectant plan of treatment. This conclusion was without warrant, and was responsible for hundreds of deaths annually from this one cause.

The treatment of ectopic gestation premised the diagnosis of this condition. This was obviously difficult, and in the majority of instances could not be arrived at at all, or, if at all, only presumptively; but in all these cases conditions could be found in the pelvis which, if not conclusive of extra-uterine pregnancy, yet constituted conclusive indications for exploratory operation. The presumption of ectopic pregnancy could be arrived at before rupture chiefly by a history of previous sterility, by a previous amenorrhœa, followed after a few weeks by irregular hæmorrhage, by increased tumefaction at either side of or behind the uterus, and by the existence of a false decidua within the uterus. The latter fact might be safely determined by the judicious use of the Emmet curette forceps. The diagnosis after rupture was essentially the diagnosis of internal hæmorrhage. Time wasted either to determine the cause of that hæmorrhage or to find out if it was primary or secondary was criminal. The thing to do was to operate. The position had been taken that time should be allowed for the patient to rally from the shock. One of the author's own patients had died simply because he had waited twelve hours for reaction—a lesson that had taught him the fallacy of the old teaching, and that had since saved lives at his hands. The best way to overcome shock from internal hæmorrhage was to stimulate the patient by giving ether, stop the drain by ligating the bleeding vessels, and rouse the nervous system by washing out the belly with hot water.

The author's conclusions were: 1. The only proper treatment of ectopic gestation was that by abdominal section. 2. The operation should be done in cases before rupture so soon as the condition could be presumptively diagnosticated. 3. The operation should be done in cases after rupture so soon as the evidences of internal hæmorrhage became apparent. 4. In cases in which the period of viability had already been reached without rupture, pregnancy should be allowed to advance to term before operation, but only under the closest possible vigilance. 5. In all cases the appendages from both sides should be removed, provided the condition of the patient would permit of the extension of the operation.

The Local and General Treatment of Gangrenous Wounds and Diseases.—Dr. Bedford Brown, of Alexandria, Virginia, read a paper thus entitled. Many years ago, previous to the late war, Dr. Brown had determined to institute a series of experiments to ascertain the capability of local and general treatment of all gangrenous wounds and diseases that came under his care either for their prevention or arrest. The object was to find local agents possessing active properties as stimulants of vital action in the affected parts; also as means of disinfecting and deodorizing gangrenous sloughs, of hastening their final separation, and for the establishment of a healthy basis for granulation. In cases coming under his care he had found that the old deodorizers failed to accomplish these objects. He had then employed a solution, almost saturated, of sulphate of zinc and dilute sulphuric acid as a local application, which had seemed to meet all the requirements. The first case in which it had been applied was according to the following formula:

℞ Zinci sulphatis........................ ℥j;
Aquæ .... Oj;
Acidi sulph. dil........................ ℥ss. M.

After the free application of hot water at 110° F. the solution had been applied every three hours on bats of raw cotton. In the course of two days the sloughs had separated rapidly, leaving a perfectly clean, healthy basis for granulation. This solution evidently possessed active antiseptic properties. It was an admirable deodorizer, it was clean, and cleansed the parts effectually. In cases of great loss of sensation in the parts, weak circulation, reduction of vital action, and depressed vitality he knew of no agents better calculated to arouse nervous action and stagnant circulation, for, as soon as the living basement structure was exposed, it gave rise to intolerable pain. He had used this solution in all forms of gangrenous wounds and diseases—some limited, others extensive and associated with septicæmia—with benefit.

The Treatment of General Septic Peritonitis.—Dr. W. L. Robinson, of Danville, Va., read a paper on this subject, in which he called attention to those cases which tended, by absence of pain and a seemingly improved condition after chill and fever, to mislead as to the necessity of operating, and instanced two cases of recent date, seen in consultation, in which septic peritonitis and secondary abscess had existed in spite of the seemingly favorable condition of the patient. He said that often there was an utter disproportion between the pathological condition and the amount of pain and tenderness—a condition so often seen in puerperal peritonitis. He stated that traumatic abdominal injuries, ecphyaditis, and pelvic inflammations were the chief causes of septic peritonitis, while, of course, any internal or external influence which produced suppuration might be the indirect cause. He agreed with Dr. G. Frank Lydston, of Chicago, that, in children, falls, blows, etc., were the causes generally of peritonitis, and that, because they were too young to direct attention to the seat of injury, we often diagnosticated the disease too late. The author took the stand that gonorrhœa was a frequent cause of septic peritonitis, and the reason why it did not always produce it was that it did not invariably invade the uterus, and, even when it entered the tubes, the adhesions to the ovary rendered it self-limiting.

Removal of Stones from the Female Bladder through the Urethra, with Cases.—Dr. W. O. Roberts, of Louisville, read a paper on this subject, which was devoted simply to his individual experience. The cases thus treated were six in number; the ages of the patients ranged from fifteen to fifty-six years. Four were married, but two only had borne children. The stones were phosphatic in four cases, uric acid in one, and an incrusted foreign body in another. In one case, in a very hysterical patient, the stone had for its nucleus a piece of soft wood. In one, the patient had had a vesico-vaginal fistula, which had been closed by an operation some months prior to the occurrence of the symptoms of stone. In another the bladder had been opened by a surgeon in doing an ovariotomy upon the patient a year before the stone was discovered. In four of the cases the stones were single, in one there were two, and in one nine. In this case the patient had passed at various times a number of small stones—from two to seven at a given micturition. These stones had varied in size from that of a grain of wheat to that of a grain of coffee. In two years she had collected one hundred and eighty-four stones, a number not representing all she had passed. The extraction was done in every case under chloroform, the patient being profoundly anæsthetized. The urethral dilatation was begun with forceps, and completed by means of the fingers, the little finger being first introduced, the ring finger next, and finally the index finger. The fingers were well oiled. In Case I the stone had been found to be almost an inch and a half in diameter. In Case II the stone had been found in the urethra, and had proved to be a piece of soft wood heavily incrusted with urinary salts. In Case III the stone had been spherical, and had had a diameter of about half an inch. In Case IV the stone had been ovoid, its long diameter being an inch, the shorter three quarters of an inch. In Case V there had been nine stones, the smallest measuring circumferentially two inches and two inches and a quarter; weight, eighty-four grains.

Wet Antiseptic Dressings in Injuries of the Hand.—Dr. William Perrin Nicolson, of Atlanta, Georgia, presented a paper with this title.

After dwelling upon the importance of the subject, both from the standpoint of the future earning capacity of the patient and the large amount of financial compensation demanded from corporations, he stated that for seven or eight years past he had looked after the surgery of several railroads and manufacturing establishments, and in that time had been called upon to treat more than three hundred hand injuries, representing all grades of injury from slight contusion to complete destruction of the larger part of the hand. The special point that was urged in the paper was the doctrine formulated by Verneuil—never to use a scalpel in a hand injury. The old teaching that when a finger was crushed you should go far enough behind the injury to secure a sound flap and amputate, was pernicious in the extreme, and had cost thousands of fingers that could have been restored to usefulness. Only such parts as were actually destroyed and pulpified should be removed, and all the tissues to come away could be amputated with the scissors. Projecting pieces of bone could be removed with pliers until reduced to the level of the fleshy parts. In compound fractures the parts should be coaptated as well as possib'e and the line of separation be determined by Nature and under strict antiseptic dressings. Such a slough was harmless. Another point to which attention was forcibly called was the utilization of blood-clot in filling up ragged injuries, and by its substitution the restoration of lost parts. When a finger was crushed off, the end should be trimmed with scissors and the clot utilized in building up a tissue over the bone. In reference to dressings the author said that he had tried almost all varieties, and had finally obtained the most satisfactory results from keeping the parts constantly bathed in a non-poisonous antiseptic solution.

In dealing with these wounds, they were first cleansed as well as possible and then bathed in a sublimate solution. Over all wounds a piece of aseptic rubber tissue or oiled silk was placed, then iodoform and sublimate gauze, and finally over all a covering of rubber tissue, into which, at some convenient point, a small opening was made. The patient was then given a bottle of antiseptic solution, to be carried in his pocket if moving about, and instructed to pour, at frequent intervals, enough into this opening to saturate the dressings. He used almost exclusively listerine, combined with a small amount of carbolic acid, in the proportion of half an ounce of the former and half a drachm of the latter, in a six-ounce mixture. If there was much pain, a small amount of aqueous extract of opium was added. These dressings were not disturbed until the third day, when they were removed under strict antisepsis to preserve the integrity of the blood-clot. The wet dressings were replaced at the end of about a week by the ordinary antiseptic dressings, kept moist by an external covering of rubber tissue. Should sloughing occur, it was kept wet for a longer time with the antiseptic. Under this treatment pain was reduced to the minimum. Suppuration never occurred, and the separation of sloughs was facilitated by the warm moisture.

Uterine Moles and their Treatment.—Dr. J. T. Wilson, of Sherman, Texas, read a paper on this subject.

In the few cases that had come under his observation they had been more troublesome and elicited more anxiety than most writers indicated they should, and the hæmorrhages in some of the cases had been alarming; then, too, there were some points noticed in his cases which he had failed to find described in text-books. All authorities seemed agreed upon the ætiological and pathological view generally taken of a mole—that it was a blighted or altered conception; the ovum having perished, its covering, or the placenta, if formed when this change took place, became attached to and continued to receive nourishment through the uterine walls and remained or became an organized product until it was thrown off; and this condition was attributed by some to the vitality retained in the villi of the chorion.

His experience had taught him to believe that if these cases did not receive treatment at a proper time there were two grave dangers to be apprehended—viz., hæmorrhage, which, if not an immediate cause of death, was capable of leading indirectly to that end, and septic poisoning. In the treatment, if the cervix was sufficiently dilated and hæmorrhage troublesome, the mass should be promptly removed. If this could not be done, a hot antiseptic vaginal douche should be given, followed by a careful and efficient tampon, with the internal administration of ergot and anodynes if required, directing quiet, rest, and a simple diet. In from twelve to sixteen hours the tampon should be removed and the foreign body extracted as completely as practicable; this would require a good, stout forceps. He had used the ordinary dressing forceps and placental forceps for the purpose. An excellent instrument in some cases was Emmet's curette forceps. The surface should be well curetted with a wire curette, the uterus thoroughly washed out with a hot solution of bichloride of mercury, and Squibb's crude carbolic acid or Churchill's tincture of iodine well applied to the surface. If much bleeding ensued—and this was not usual—the application of persulphate or perchloride of iron gave good results. The patient was put to bed and kept there as long as the indications in each special case might require; she was put upon a tonic treatment and the use of hot vaginal antiseptic washes. In from three to five days the uterus might need curetting again and another intra-uterine douche; then the application of iodine about twice a week, alternated occasionally perhaps with carbolic acid as long as might seem necessary, and the cure, if possible, completed of any uterine disease that might exist. The patient's general health was carefully looked after and her mind tranquillized.

A Review of the Treatment of Varicocele.—Dr. G. Frank Lydston, of Chicago, read a very elaborate paper on this subject. He said, in discussing the various merits of operative procedure, it was unnecessary to take them up in detail. The *raison d'être* of many specially devised and named operations was apparent only to the operator. For practical purposes the various methods might be divided into (1) acupressure, (2) subcutaneous deligation, (3) open deligation, (4) deligation with resection of veins, (5) deligation with resection of scrotum, (6) resection of the scrotum. The employment of acupressure, to the author's mind, was an evidence of a lack of faith in modern antisepsis. Gradual obliteration of veins had all the dangers of immediate deligation in a marked degree and had none of its advantages. The term acupressure covered practically all methods of gradual obliteration of the veins, of which Davat's operation was an illustration. Subcutaneous deligation was not essentially dangerous in skillful hands. Simple as the operation appeared, however, accidents had occurred. The operation was done in the dark and more tissue was included in the ligature than was necessary. Strangulation of tissue was not conducive to safety. Scrotal hæmatocele, phlebitis, septic infection, thrombosis, and embolism were possible. The vas deferens had been included in the ligature. He did not condemn the subcutaneous operation in suitable cases and in skillful hands, but he believed there were better and safer methods on the average. There was little choice between deligation without disturbance of the veins and deligation with resection of the veins, excepting the remotely greater danger of sepsis in the latter. Gould's method of division by cautery he believed to be the most dangerous operation yet devised. The dangers of the open method were in a less degree those of the subcutaneous deligation. If open deligation was determined upon, the operation should be done as high as possible in the straight portion of the veins and a single ligature applied to the vein. Deligation with resection of the scrotum he considered to be the ideal operation, in the majority of cases requiring surgical interference.

Silicate of Sodium; some New Methods of its Use in Surgery.—Dr. George A. Baxter, of Chattanooga, read a paper in which he said the jacket of baked silicate of sodium which he would present to the association possessed all the qualities to be found in the plaster jacket, firmness and support, and weighed actually one pound and six ounces. It was neater in appearance and finish, and could be perforated like leather for ventilation, which plaster could not. It was even lighter than leather without its costly process of construction, and had the same advantage over the woven wire jacket, with the additional advantage over both these latter and all others of this class, that it could be constructed by any surgeon at any time or in any place. The patient was suspended and a plaster jacket roughly placed around her and cut as soon as it had hardened enough to retain its shape, thereby lessening materially the time ot suspension, the most trying ordeal with this or the plaster, and not without its dangers when long continued; the cut edges were bound together where it had been cut down directly in front with cords, and then a core of paper placed in the center. This paper core was used for two reasons: (1) to lighten the cast and take as little plaster as possible, and (2) to dry it the more readily by heating the inside. This done, the plaster was poured around the core and inside the cast, which gave him a mold of the body in extension and counter-extension, exact in every respect. Around this was made the silicate jacket after the manner of the plaster roller bandage, weaving half-inch metal strips in the meshes of the bandage at a distance of four inches apart around the whole cast, an inside lining of a knit shirt having been first placed over the cast. The whole was then placed over a coal-oil stove and allowed to dry out, which it did in from half an hour to two hours or less, especially if the cast had been previously dried. This process of heating not only dried the silicate, but baked it as well, rendered it impervious to the action of water or the perspiration, and gave it sufficient strength to allow of its being perforated for ventilation. It was then cut from the mold with a straight incision down the center, two pieces of leather, to which button-hooks or eyelets had been previously attached, were sewed up and down the front on each side, then the whole could be laced up solid or loosened and taken off at will. The necessity of taking off a jacket or leaving it on during the whole course of treatment would, of course, depend upon the character of the disease or the injury under treatment.

The Surgery of the Gall Bladder.—Dr. Edwin Ricketts, of Cincinnati, contributed a paper on this subject, in which he said that to Langenbuch was due the credit of totally extirpating the gall bladder, and to J. Marion Sims we owed a debt of gratitude for establishing the operation of cholecystotomy. He reported seven cases of gall stones.

Rectal Medication.—Dr. W. Hampton Caldwell, of Lexington, Ky., read a paper in which he said that several years ago he had been convinced of the utility and safety of rectal administration of medicine, and that he had ever since regarded it as a most important plan of treatment. Since we accepted the theory of the local origin or manifestation of the majority of diseases, this idea of rectal administration of medicines was more readily accepted as scientific in its applications than at any time heretofore. The rectal suppository, consisting of cacao butter, incorporated with the various therapeutical agents, afforded the most efficient and pleasant mode of administration in our possession. Rectal suppositories satisfied all requirements as a local or constitutional remedy. They were neat, convenient, and in almost every instance preferred by the patient to the administration of the same drug by the mouth.

Vaginal Cystotomy in a Child of Six Years.—Dr. Thad. A. Reamy, of Cincinnati, reported a case in which he had removed a stone weighing 365 grains, by vaginal cystotomy, from the bladder of a child six years of age, with injury of the ureter. Operations done for closing the bladder had been difficult, but ultimately successful. He exhibited the stone, and made some comments on the case.

The Surgical Treatment of Empyema.—Dr. James A. Goggana, of Alexandria City, Alabama, read a paper on this subject in which he said that during the last eighteen months he had treated six cases of empyema which had developed in the wake of pneumonia, all of which had gone on to perfect recovery. The patients had varied in age from three to thirty-five years. Surgical treatment was the one which had been the most successfully employed. Spontaneous cures, he said, were rare—so rare that surgical interference was the rule. There were many methods of operating for the removal of pus from the pleural cavity, but they might be classified under two general headings: 1. The closed method, which consisted in removing the pus by simple puncture with some kind of trocar or modern aspirator, and allowing the puncture to heal at once. 2. The open method, which consisted in making an incision more or less free with the introduction of some kind of drainage-tubes to maintain the perfect evacuation of the fluid, and admit of medicated washings, and to promote free ingress and egress of air that had been passed through an antiseptic dressing. The surgical treatment, then, being an absolute necessity, we could not overestimate the importance of making the diagnosis certain by resorting to exploratory puncture with a hypodermic syringe. We could assure the patient and friends that no evil results could come from this procedure, and that the prognosis positively depended upon this means of settling the diagnosis.

Officers for the Ensuing Year were elected as follows: President, Dr. L. S. McMurtry, of Louisville, Ky.; first vice-president, Dr. McF. Gaston, of Atlanta, Ga.; second vice-president, Dr. J. T. Wilson, of Sherman, Tex.; secretary, Dr. W. E. B. Davis, of Birmingham, Ala.; treasurer, Dr. Hardin P. Cochrane, of Birmingham, Ala. Place of meeting, Richmond, Va., on the second Tuesday in November, 1891.

Reports on the Progress of Medicine.

ANATOMY.

By MATTHIAS L. FOSTER, M. D.

The Fissure of Rolando.—Professor Cunningham (*Jour. of Anat. and Physiol.*, October, 1890) furnishes an account of the fissure of Rolando in man and the lower animals which is worthy of careful study. Regarding the time of its development in the human fœtus there is some variability. The more usual time is the last week or ten days of the fifth month, but it is not uncommon to meet with hemispheres well on in the sixth month of development with no sign of the fissure. As a general rule it appears to be developed in two separate and distinct portions. The lower portion always appears before the upper in the form of a shallow, oblique groove which represents the lower two thirds of the complete fissure. Its lower end is placed close to the coronal suture, perhaps subjacent to it, while the upper end lies farther back and reaches a point midway between the upper margin of the hemisphere and the Sylvian fossa. The upper portion of the fissure makes its appearance in the form of a deep pit or depression between the upper end of the lower portion and the margin of the hemisphere. It is separated from the lower portion by an eminence, over which a faint furrow is soon to be found running over its summit and partially uniting the two portions of the fissure. As development progresses the union becomes more complete and the intervening eminence is borne down into the bottom of the fissure. This union of the two portions takes place rapidly, as a rule, though in many cases the process is retarded. The intervening portion of the cortex is not obliterated; it disappears from the surface but can be found even in adult brains at the bottom of the fissure at the junction of its upper and middle thirds in the form of the deep annectant gyrus. In some rare cases the two original portions remain distinct throughout life. In these the intervening bridge of cortex remains on the surface.

This view is quite different from the one usually entertained, which pictures the fissure of Rolando as beginning as a slight furrow midway between the upper border of the hemisphere and the margin of the Sylvian fossa and extending gradually and continuously in an upward and downward direction. That this may be the course of development in certain cases the writer does not deny, but he maintains that there is no direct evidence to show that it is so. In one rather advanced hemisphere he found a clean-cut straight fissure with its extremities equally distant from the superior border of the hemisphere and from the fissure of Sylvius, of uniform depth, and at no point interrupted by an elevation of the bottom. This appearance leads him to believe that this fissure may have developed in the manner which is usually attributed to it.

From an analysis of fifty-two hemispheres, taken from children and adults, it was found that in sixty per cent. the upper end of the fissure cut the upper border of the hemisphere and appeared on the inner surface; in twenty-one per cent. it just reached the upper border, but did not show upon the inner surface, and in nineteen per cent. it fell short of the upper border. The upper end of the fissure does not overstep the upper border of the hemisphere until the beginning of the last month of intra-uterine development. In the eighth month it just reaches the margin.

From the seventh month onward the growth of the two bounding banks of the fissure does not proceed at an equal pace. There appears to be a greater growth energy in the posterior central convolution, and this leads to a partial overlapping of the ascending frontal convolution by the ascending parietal convolution. This is more obvious in the lower two thirds of the fissure, and it is owing to this that in the adult the fissure cuts into the cerebral surface in an oblique direction from before backward.

The position of the fissure of Rolando on the surface of the brain is subject to very slight alterations, and in all probability it becomes absolutely fixed at the third month of extra-uterine life, but its relations to the coronal suture are very different. The parietal bone and the area of brain immediately subjacent do not grow at an equal rate. In the early stages of its development the fissure of Rolando lies close to the coronal suture, because the parietal bone forms at a later stage a relatively greater extent of the cranial vault. The maximum amount of the district in front of the fissure of Rolando covered by the parietal bone is reached at the third month of extra-uterine life. From this stage on the coronal suture in its upper part falls back a little, and after a slight oscillation assumes at the fourth or fifth year of childhood a fixed position with reference to the fissure of Rolando. Its lower end is subject to very considerable variations regarding its relative position to the fissure which are not easy to understand.

In contradiction to Huschka, Rüdinger, and Passet, Professor Cunningham deduces from his observations that the lower end of the fissure of Rolando holds relatively the same place on the cerebral surface in the two sexes, and that at no period of growth does it exhibit in its position what might be safely regarded as sexual differences.

The Development of the Anterior Portion of the Human Brain from the End of the First to the Beginning of the Third Month.—According to an abstract in the *Fortschritte der Medicin* for November 1, 1890, Wilhelm His has obtained the following points from observations on the fœtal brain:

Like the spinal cord and medulla oblongata, the anterior half of the brain appears at first as a tube whose lateral walls are thicker than the dorsal or ventral. Each lateral wall is divided into dorsal and ventral halves, each of which ends anteriorly in front of the chiasma. During the course of development the ventral half inclines to bend inward, while the dorsal arches outward. The optic tract, of which a portion exists on the border of each division, behaves in a similar manner to the ascending roots of the nerves of sensation. From the ventral division the regio subthalamica of the mid-brain originates together with the regio mamillaris and the optic vesicle; therefore the retina is in correspondence with the anterior horns of the gray matter of the spinal cord and the motor ganglionic regions of the hind and mid brain. From the dorsal division the optic thalamus and the hemisphere, including the olfactory bulb and the corpus striatum, originate. After the formation of the optic vesicle the hemispheres develop from the dorsal, terminal portion of the fore-brain and are separated from each other by two fissures, one on either side of a crest which springs from the vertex of the skull. The fissure of Sylvius first appears during the fifth week as a shallow depression which corresponds internally to a convex swelling, the corpus striatum. A depression in the dorsal layer, the falciform fold, begins the separation of the lateral ventricles and the formation of the median walls of the hemispheres. The remainder of the undivided ventricle of the fore-brain occupies the space between the corpora striata.

The lateral wall of the third ventricle is divided into dorsal and ventral halves, which are best designated as the pars thalamica and the pars subthalamica, by a fissure which extends from the radicular fissure of the optic vesicle to the mid-brain, the sulcus of Monro. Longitudinal eminences grow inward from both parts. The roof of the third ventricle remains epithelial, and gives origin to the pineal gland, the tuberculum subpineale, and the pars habenularis. The floor of the third ventricle is divided into an anterior and a posterior portion, the latter including the mammillary and infundibular regions. The gradual development of the floor of the ventricle and of the pituitary gland is accomplished mechanically.

The olfactory lobe, which is separated from the lower portion of the hemisphere in the fifth week by a fissure which extends out from the fissure of Sylvius, divides into an anterior (trigonum, tractus, bulbus) and a posterior portion. In the interspace between the brain and the olfactory plate lie at first neither nerve fibers nor ganglion cells. In the olfactory plate neuroblasts appear, which form the commencement of the olfactory ganglion, and this, later on, joins the brain and originates the olfactory nerve. Probably all of the ganglion cells which originate in the olfactory plate finally become connected with the covering of the trigonum. By the fifth week the walls of the brain have become here and there thickened or thinned, but each external depression corresponds to an internal protrusion, and each external fold to an internal sulcus. The increase in the thickness of the wall is mainly due to the increase in the white substance. Single formations, as the corpus striatum, stand out more prominently from their surroundings, while others disappear in the depth of the tissue. Structures which are originally separated become secondarily united, as the corpus striatum with the regio subthalamica and with the median plate which originates from the falciform fold.

Abnormal Arrangement of the Veins about the Popliteal Space.—Davidson describes the following abnormity (*Jour. of Anat. and Physiol.*, October, 1890): The popliteal vein occupied its normal position and relations in the space itself, but at the opening in the adductor magnus it gave off a very small branch which accompanied the femoral artery, while the main trunk of the vein passed up the back of the thigh, lying between the origins of the adductor magnus and the short head of the biceps. It reached the front of the thigh by piercing the adductores magnus and brevis immediately above the insertion of the adductor longus, and accompanied the femoral artery for the rest of the course. It was joined at the upper part of Scarpa's triangle by the small branch given off at the opening in the adductor magnus.

The short saphenous vein lay to the outer side of the middle line in the lower part of the popliteal space and soon pierced the fascia to lie on the posterior ligament of Winslow. It had no connection with the popliteal vein at this point, but continued vertically upward until it reached a point three inches above the condyle of the femur, where it pierced the origin of the short head of the biceps, ran for a short distance in the substance of that muscle, emerged, and joined the main trunk in the back of the thigh. The long saphenous vein was double, but occupied its usual position.

Absence of the Vagina.—Garde reports in the *Australasian Medical Gazette* a case in which the lower portion of the vagina was absent, leaving a vesico-rectal septum about three inches long. The other genital organs were present and active. Menstrual blood had accumulated in the upper part of the vagina about the cervix, forming a tumor about the size of an orange in the hypogastric region. An artificial vagina was made between the layers of the vesico-rectal septum on the lines laid down by Dupuytren and Amussat, and menstruation was afterward without pain.

Pseudo-hermaphroditism.—Winter describes the following case (*Zeitsch. f. Geburts. u. Gyn.; Am. Jour. of Obs.*, October, 1890): The patient, twenty-three years old, was of moderate size, rather large-boned, with large hands and feet, muscles moderately developed, subcutaneous adipose slight. The face was somewhat coarse-featured but distinctly feminine, and had no trace of beard. She was feminine in manner and had a broad, slightly projecting larynx, and well-developed breasts with retracted nipples. The pelvis was broad, the hips were well arched, and the symphysis pubis was more pointed than in the female. The abdomen was flat and not hairy. The external genitals resembled at first glance a perfect scrotum, with a small cleft opening below. The skin of the genitals was pigmented and corrugated, and the corrugations could be intensified by mechanical irritation. Testicles as large as pigeon's eggs were in the two halves of the scrotum; they moved upward on contraction of the abdominal muscles, but a cremasteric reflex was wanting; they could be pushed up to the inguinal openings but not through them; the left testicle was the more prominent and hung the lower. Both halves of the scrotum were connected by a distinctly feminine frenulum. At the posterior surface the epididymis could be felt closely applied, the enlarged part lying at the lower pole of the testicle, and continued above into the vas deferens, which could be followed to the inguinal ring with the other constituents of the cord. On holding the scrotal valves apart, it could be seen that the internal surface of the latter contained cutis, only the parts in the median line having a mucous-membrane character. The only trace of a penis was a moderately developed, imperforate clitoris, hardly projecting beyond the level of the surroundings; the two superior roots were folds of mucous membrane, the lower ones being more prominent from small caruncles. In the middle of this rhomb-shaped figure was a small opening, and a small sound introduced into this glided upward half a centimetre to the clitoris. More posteriorly the lateral borders of the unclosed part of the urethra came together as a small projection which was imperforate. Below this the folds again separated and surrounded the sinus urogenitalis, which was so wide that a finger could enter; if the side-wall of the latter was drawn upon, the opening into the closed urethra could be seen; the mucous membrane of this part of the sinus was smooth, that corresponding to the vagina more folded. The closed urethra was 7 ctm. long (the cleft portion remaining 2·5 ctm.), and wound around the symphysis with the usual curve. In the closed urethra two symmetrical openings could be seen several millimetres from the median line on the posterior wall, which could be penetrated by a sound about 1 ctm. backward and outward; these he considered to be the ejaculatory ducts. The surroundings of the sinus urogenitalis looked almost like a hymen at the posterior periphery. Under anæsthesia the vas deferens of either side could be distinctly traced from the inguinal ring; both ureters could be felt through the rectum; there was no trace of a prostate and no organ resembling the uterus.

A Sternopagous Monster.—Frazer (*Am. Jour. of Obs.*, August, 1890) reports the birth of a monster consisting of two male children united from the upper part of the sternum to the umbilicus. There were two heads, four perfectly developed arms and hands, four legs and feet, one thoracic cavity, two vertebral columns, and two sterno-costal walls, each wall formed by half the sternum and ribs of one fœtus and half of the other.

The Mucous Membrane of the Uterus.—Boldt (*Annals of Gyn. and Pæd.*, November, 1890) found, while studying the uterine mucous membrane during menstruation, that all the utricular glands were surrounded with rod and spindle forms, which could be traced from the base of the glands up to the surface. These forms were evidently rod and spindle shaped nuclei of smooth muscular fibers, the protoplasm of which was obscured by the treatment with Canada balsam. It appeared from this that, at the boundary between muscle and mucous membrane, the former sends out processes into the latter, so that the tubes forming the glands seemed to be surrounded by wide muscle processes, between which only moderately small portions of adenoid or lymphatic tissue remained visible. Between contiguous glands, relatively to their terminations in their *cul-de-sacs*, only muscular tissue and no lymphatic tissue could be discovered. The nearer the surface, the thinner were the glands accompanying the muscular processes.

In the cervix uteri of a virgin the mucous membrane is richly provided with adenoid or lymphatic tissue, and traversed by numerous small muscular bundles. The glands are tubular, irregular in outline, small in caliber, and covered with a single layer of columnar epithelium. Between the epithelium and the contiguous tissue no structureless membrane can be seen, but the boundary layer shows smooth muscular fibers in layers of varying width and sometimes wanting. In the latter case the boundary zone is formed of lymphatic tissue. The spindle formation of the individual muscle fiber can be demonstrated, but the rod formation of the nuclei may not be apparent. Sometimes in the muscular layer there are formations which resemble lymph corpuscles, which are surrounded by branching processes.

In a multipara the cervical mucous membrane has a basis of fibrillary connective tissue, interspersed with a small quantity of lymphatic tissue. Many of the connective-tissue bundles are extensively infiltrated with a ground substance of collagen, which makes them strongly refractive of light. The gland ducts are wider and more branching than in the virgin. The boundary layer between the epithelium and the surrounding tissue consists of a structureless membrane and a delicate fibrillary connective tissue, whose irregular elevations are covered with columnar epithelium. Between the basal and the boundary layers there is a layer of smooth muscular fibers. Each gland has an accompanying layer, sometimes wanting, of muscular fiber, composed of two or more muscle spindles. Occasionally a section of the gland is found with no muscle layer in its surroundings. The muscle layer which accompanies the glands is not continuous, but is pierced in many places, and surrounds the glands in a kind of woven formation.

The mucous membrane from the fundus of a virgin uterus is composed of moderately wide muscle bundles within the adenoid or lymphatic tissue, which are often combined with muscular processes which appear to be woven around the tube-like glands. These webs are never very wide, and are composed of only two or three muscle spindles. Muscle fibers may be absent, and then the boundary zone is made up of adenoid tissue, while a structureless membrane is rarely definable.

The utricular glands from the corpus uteri of a multipara show the attendant web of muscular tissue much more clearly defined than the same structure in a virgin uterus.

As the result of his studies, Boldt concludes that not only is the adenoid or lymphatic tissue interwoven with muscular tissue, but the utricular glands of the cervix and of the body of the uterus are associated with a layer of smooth muscular fibers arranged in a web-like manner. These muscular processes have a relation to the muscle bundles, the uterine wall, as well as to those which are associated with the lymphatic tissue of the mucosa. These gland muscles are developed most at the border zone, between mucous membrane and muscularis, and become less pronounced near the surface of the mucous membrane, but accompany the glands as far as their openings into the uterine cavity.

The Utero-placental Blood-vessels.—Bumm (*Arch. f. Gyn.; Fortschritte der Medicin*, Oct. 1, 1890) describes the utero-placental vessels as follows: The veins are the more easily seen. They lie mainly upon the cotyledons, seldom on their borders, and never in their septa. In the superficial layers of the serotina they appear as tortuous, thin-walled sinuses, 0·5 to 1 mm. in diameter in the fresh state, and always are filled with blood. The upper part of their walls has sometimes remained attached, and then they resembled canals on the serotinal covering of the placenta. Injection of colored gelatin makes them more distinct. The nuclei of the endothelial cells which form the inner layer are rather distant from one another. The endothelial layer ends at the opening of the vein into the placental spaces. External to this layer is a layer of filiform connective tissue with spindle cells. After several turns it turns crosswise against the final layer of the serotina to open into the placental spaces. The tips of villi are always found at the borders of the venous openings, and the blood in the spaces is continually connected with the veins by means of the villous tips.

The arteries usually lie in the septa between the cotyledons, less often with the veins. They are more convoluted and tortuous than the veins and usually do not divide. They are lined by endothelium resembling that of the veins, outside of which is a layer of fibrous connective tissue with round and sometimes rod-shaped nuclei, thicker and more compact than in the veins. Outside of this is the large-celled decidual tissue. The arteries penetrate the decidua and after a very tortuous course open into the placental spaces either at right angles or parallel to the decidual surface. The mouth of the artery is sometimes narrowed and causes a spur-like projection. There are no villous tips to be found here as at the mouths of the veins.

The nutrient vessels are much finer, are not convoluted, give off branches, and terminate in a capillary system.

From these observations Bumm concludes that the placental spaces take the place of a capillary system, that each cotyledon forms a distinct circulatory field for the maternal blood, the current passing from the mouth of the artery at its border to the opening of the veins at its surface. Lower down near the chorion is the only place where the cotyledons cling together. The circulation is the most active in the upper part of the cotyledons and that nearest the decidua.

Tubal Pregnancy.—Abel (*Ctrlbl. f. Gyn.; Am. Jour. of the Med. Sci.*, November, 1890) maintains that in the beginning a decidual membrane is formed from the endometrium, and that Friedländer's cellular layer is not fully developed in this. The superficial layer of the uterine decidua is present in a degenerate form at the second month. The tube external to the fœtus usually is not changed. In the fœtal sac the mucous membrane of the tube forms a decidua vera which is best developed at the extremity of the ovum until the serotina has become completely atrophied. Beneath the serotina, epithelium from the mucous membrane of the tube is often found. The epithelium of the villi of the chorion is threefold—two layers over the fœtal and one over the maternal vessels. The spaces between the villi are dilated maternal vessels whose walls are not broken through by the villi of the chorion.

The Origin of the Amniotic Fluid.—Nagel (*Arch. f. Gyn.; Am. Jour. of Obs.*, November, 1890) suggests that the Wolffian bodies may be the source of the amniotic fluid. He bases this suggestion upon the fact that during their entire existence as independent organs they present the anatomical characteristics of secreting organs in full activity, justifying us in considering them as important elements in embryonal nutrition. He discusses their anatomy at some length and concludes that at the beginning the permanent kidneys greatly resemble the Wolffian bodies and are capable of functionating in the second month of gestation. The Wolffian bodies are, he contends, capable of performing their functions at an earlier stage, and the amniotic fluid is in part a product of embryonal metabolism even in the beginning of pregnancy. Beginning with the subinvolution of the Wolffian bodies, the kidneys gradually assume the functions of the former, and for a time the provisional and the permanent organs act in concert, so that the renal activity is not suddenly assumed by the kidney. Before the sphincter vesicæ is so far developed as to permit the existence of a urinary bladder, the secreted urine flows directly into the amniotic fluid.

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